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# OUTLINES

OF

# ANALOGICAL PHILOSOPHY:

BEING

A PRIMARY VIEW

OF THE

PRINCIPLES, RELATIONS AND PURPOSES

OF

NATURE, SCIENCE, AND ART.

BY GEORGE FIELD,

AUTHOR OF AN "ESSAY ON THE ANALOGY AND HARMONY OF COLOURS," &c.

"Τριχθα δε παντα δεδασται."—Iliad, xv. 189.

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# OF

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# PART III.

# THE ANALOGY
OF
THE SCIENCES.

# THE ANALOGY

OF

# THE SCIENCES.

## PROEM.

723. The universal system, of which we have attempted the analysis in our First Part, having been therein resolved into *Disciplines*, in regard to principles; *Sciences*, in respect to relations; and *Arts*, in reference to Ends; and we having, in our Second Part, traced, in natural order, distinct outlines of the Disciplines which are instrumental to, and first in, the Series of Science, and involve with the Mathesis the two great branches of Logical and Philological, or subjective and representative science, we proceed, in this Third Part, to sketch, in like order, Outlines of the various *Physiological or Objective Sciences* successively, as physical, sensible, and moral, under the denominations of Physics, Esthetics, and Ethics; and first of *Physics*, which succeed in immediate relation to Mechanics, the last of the Mathematical Disciplines.

724. By having thus disposed of Logic and Philology, in the form of Disciplines, we have excluded their dependent branches from the series of the sciences, and limited the scope of the latter to the physiological sciences; but it is sufficient to have marked their positions; and all that is essential to our design is the developement and illustration of the universal form and connexion of infinite science, as a guide to a like unfolding of every particular science; when, having done which in its chief branches, our present intention will have been accomplished, and the way opened to a more extended, correct, and entire developement and making out of the whole.

725. Should the setting forth of the rudiments of the Sciences in these Outlines fail to afford satisfaction to proficients therein, or to those who seek more extended information in any of their branches, we may plead, in justification, that to have adapted the Sciences to especial purposes would have been a departure from our design, and a sacrifice of the more principal object, of rendering them generally comprehensible in their universal relations and connexion, for the advancement of the whole.

726. And if any inquiring mind, accomplished in many sciences, should experience disappointment that some sciences, which he has been accustomed to regard as principal in the established ranks of science, are neither to be found in our series as genera, nor as simple species of the great

body of science, we may truly plead that such sciences have been raised to the first relations of *importance*, and not of *science*, by the peculiar circumstances and necessities which have called them forth; that all sciences are tributary, immediately or remotely, to every science, whence many of them have become artificially and extensively compounded, according to expedience, without regard to natural order and actual relations; and that what is chiefly wanting in this respect is a rule and principle, such as we have attempted to supply, whereby we may securely analyze any of the established forms of science, and exhibit their natural relations; and as to those who seek extent of science in any other view, we can but refer them to the great fund of literature; or, failing there, and as a last resort, to the exhaustless stores of nature, reflection, and experiment.

727. Our chief and incumbent endeavour has been to render no individual science or subject *principal*, but to assign to every one its place, in subordination to the supremacy of the whole; and our greatest difficulty—a difficulty, too, which, if we overcome, we shall incur those individual reprehensions which we may escape by failing — has been, not to say all we might have worthily and originally said upon each particular branch of science, but as little only as might serve our general purpose.

728. Science is essentially *theoretical*; and he

who pursues science as *practical* deviates from its chief office into art; and, however useful his performance may prove, he has yet performed in error; and it is to this that we owe the confusion, and many artificial and isolic forms of science, and the frequent contempt of practical men for reasoning and just speculation.

729. So intimately is every part of science related to the whole, that each science may be regarded as the centre of all knowledge, and the universe may be subordinated to every subject; nor can there be any objection to such a mode of regarding it, under due and expedient limitation, when it becomes the *principal* subject of a distinct treatise.

730. Now, although no one can analyze a subject which he does not comprehend and understand, yet to treat thus principally of any individual science or subject, so as fully to satisfy the mind accomplished therein, would require a depth, extent, and excellence of knowledge, and a long and elaborate discipline and practice therein, that would, if we are not mistaken, disqualify any finite mind for the task of universal arrangement, and for that impartial and uncoloured perception, which an entire and philosophic survey of science demands.

731. For it has been by overshooting the boundaries of particular sciences that the learned have hitherto failed to produce a balanced whole thereof, in which each principal branch bears its

equal and appropriate part. And although flourishing shoots have at different seasons sprung from the soil of science, they have failed to afford the stately plant which, occupying the entire ground, draws the whole nourishment of the root, and by a single stem supports all its branches.

732. It is, however, no just reproach to the current sciences, that they have not always observed a due boundary, or taken a right station, and the simple, invariable forms of nature; since these, like the arts, must accommodate themselves in all ages to the wants of society, and to each other: nor do we, therefore, impugn the utility and vast importance of many of the conventional and complex forms of instituted sciences, of which the natural sciences are nevertheless the roots, and of which we have thence attempted a catalogue in a tabular view, coinciding and in connexion with our general Synopsis.

733. It remains, then, to this third part of our design, to trace the Outlines of

PHYSIOLOGICAL SCIENCE,
according to the three branches of

PHYSICS, ESTHETICS, and ETHICS,
and their various species,

Chemical, Vegetal, Animal. Plastic, Chromatic, Harmonic. Moral, Political, and Theological.

And their dependent branches, which, taken altogether, are so far universal, that they comprehend all objective science between the extremes of the lowest matter and the highest mind, and include the majority of those sciences about which mankind has been most generally solicitous.

734. The present part will therefore constitute a system proceeding from the purely theoretical and universal view of our first part, and approaching to particulars, and to the practical view of our final part. In this course we may hope to confirm our prior analogical deductions *à posteriori*, or upon the foundation of experience, in the infinite field of the physical, sensible, and moral sciences; and first in the following outline of *Physics*, or Natural Philosophy.

735. It is requisite to remark, ere we proceed, that in changing our position from the universal view of our first outline to the particulars of physiological science in those which follow, we have changed our logical procedure from the categorical or theoretical analogism of the former to the hypothetical or practical analogism, which coincides with the induction, and is the mode especially appropriate to the deduction of analogical relations from the established observations and experience of empirical science, upon which these latter outlines are principally founded.

736. In this procedure we take our departure, as it were, from the opposite extreme of science, with the design of connecting the experimental with the rational, and particulars with the universal, in universal coincidence and analogy; and to unite these sciences formally as a whole.

737. Yet, in proportion as we proceed from the stem to the branches and extremes of science, systematic analogy becomes slenderer and more umbrageous; it will, therefore, be no just reproach here, that the natural or artificial analogies we may adduce are not actual deductions of *reason*, or essentials of the mind, or internal; since it will be sufficient if they are *facts* involving no contradiction or absurdity; for *facts* are as authoritative — nay, they are the only adequate authorities in external nature — as *reasons* only are strictly to the intellect or internal.

738. And these are essentially coincident; for *that is not a fact which contradicts reason, nor that a reason which is contrary to fact;* by pursuing the latter, therefore, throughout nature and experience, we may hope, in the end, to connect them in universal coincidence; for if facts are authoritative reasons, such also must be the rational deductions or generalizations of facts, by which we may mount to that which is general and total.

739. Any error that may, however, occur in these outlines, from our adjustments of the particulars of experience to universals, or of the material and sensible to the intellectual, ought rather to be attributed to the deficiency of experience than to the defect of theory, and subject to future correction; for particulars are infinite, and experience is partial and limited.

740. And if hence, also, coincidence should in

some instances be incomplete, still will our object be accomplished, if, upon the whole, we establish the universal connexion of things with theory, or even the possibility and advantage of such connexion. And further, if it shall appear that our theory anticipates experience in any case, it will help to confirm the system on which the theory itself is founded, and the truth of our general principles.

741. The greatest obstacle in reconciling these extremes of particular and universal in science lies in the representing medium or language, from the unavoidable ambiguity of words drawn from peculiarity of usage into universal application, and the essential diversity of signification dependent upon the positions of the mind, or points of view under which they are employed, demanding considerable license in their use, and proportionate attention, with an accommodating spirit in the reader.

742. That mind must, nevertheless, be remarkably unsusceptible of truth and the agreement of things, which is not struck with the coincidences of the natural sciences, and the consonancy with which they combine as a whole. To such minds alone will the incessant repetition of the universal relations of the external, medial, and internal, so often insisted on in our universal outlines, be necessary, in respect to every scientific triad hereafter adduced; yet it ought never to be lost sight of, and the mind impressed with it as a maxim will

readily discover the truth of these relations in all the divisions of the following outlines, and in all others consequent to the view we have taken throughout science, &c.

743. As to the brevity with which we have delivered these outlines, and the absence of all detail, as well as of the minor and mixed systems dependent upon them, they are to be regarded as essential features of our plan; which, being infinite and truly founded, is an ever-springing source of particulars, the connecting links of which are our chief object.

# OUTLINE V.

# PHYSICS:

OR,

THE ANALOGY

OF THE

PHYSICAL SCIENCES

INDICATED.

# PHYSICS:

OR, THE

# ANALOGY OF THE PHYSICAL SCIENCES.

## INTRODUCTION.

744. The zeal with which natural and experimental philosophy have been cultivated ever since the time of Bacon, has enriched the funds of experience with so many important discoveries and particulars, that the great object of this branch of science, as a whole, is no longer impeded by want of means for its establishment upon a universal basis, *à posteriori*, according to the design and anticipation of that great man.

745. It is true, indeed, that the survey for a perfect universal induction in this department of science is absolutely illimitable, and only to be accomplished by the accumulated labours of all

men in all ages: there is, therefore, no danger of inquiry being exhausted; every day adds new and important facts and discoveries to the stores of physical experience, and the more reasonable apprehension arises that Physics should now obstruct their own progress by the multiplication of particulars, on the one hand, as they have heretofore, by too narrow and hasty generalizations or inductions, on the other.

746. It is true, also, that knowledge, *à posteriori*, thus eminently and successfully investigated in our own times, and with so much honour to the ingenious researches and persevering industry of modern philosophers, whose achievements in this department of science surpass all praise, must supply the particulars for the generalogical, or inductive process, without which the Physical Sciences can never be established in harmony with experience upon ground universally satisfactory to the mind.

747. Natural Philosophers have, accordingly, accumulated an immense and growing aggregate of materials, which demand of the mind some principle of selection and rejection, whereby they may be reduced to order and science, their redundances secerned, and their wants disclosed.

748. It is not sufficient that we establish isolated sciences, nor that one science should administer to many; the principle of union upon which such administration depends must be un-

folded ere the whole body of science can move in concert.

749. All science, purely such, not excepting that of the external, has its foundation in the mind, by whatever means it may be attained, and to become perfectly valid, and universally satisfactory, must be conformable to the mind's constitution; that is, to reason.

750. Every attempt, however, to place the Physical Sciences upon such foundation has hitherto failed, and consequently little true universal progress has been made in the *science* of the external; for the stores of particular knowledge which we possess in this department are empirical and practical — the accumulations of *Natural History* and experience under the false appellation of Science.

751. The total failure of the antients upon this ground, owing to the want of proper and sufficient materials, has brought discredit upon their more authentic philosophy; nor have the attempts of the moderns to generalize our physical experience, and bring it within the prescription of reason and a universal theory, notwithstanding our incomparably more extended knowledge of facts and phenomena, been by any means successful.

752. An attempt, in which both antients and moderns have failed, if not presumptuous in the present advanced state of natural knowledge, is at least difficult, hazardous, and discouraging; indeed,

from its nature and compass, it admits not of entire accomplishment upon posterior ground: hence, all we can fairly hope or require is some progress towards the perfect reconcilement of reason with experience therein, while every attempt that supplies a new light may be hailed as the harbinger of improvement, and the greatest obstacle will be overcome when we shall have attained the right road; for such is the admirable nature of truth, and truth of nature, that no sooner do we get into their track than new lights arise, and the way widens before us.

753. In such attempts, however, the distinctions of antient and modern, and the prejudices of fashion and authority, are to be discarded,—that while we adopt as discoveries, or reject as mistakes and errors, the labours of our predecessors and contemporaries, we may neither consecrate their delusions nor extinguish the lights they have set up; but, recognising truth by its grand characteristics of unity and consistency, adopt it wherever it appears.

754. The present outline aims at no more than to analogize those particulars of posterior experience which coincide with the prior requisitions of that universal theory which appears to us, upon the whole, to embrace facts more widely than any other, to indicate where experience is wanting, and to reconcile the discrepancies of the sciences in a manner altogether the most simple. We have

herein claimed for the mind such of the stores of natural philosophy as agree in systematic unity, independently of any assumptions which may accompany them, founded upon the illusive forms of partial and defective inductions. This essay might, however, have been extended to a much greater variety of the particulars of physical nature, had it consisted with our design to have framed any thing more than a brief outline of this department of natural science.

# CHAPTER I.

## OF THE PHYSICAL SCIENCES.

755. THE ground and relations of *Physics,* as a branch of Physiology and of universal science, having been already pointed out and distinguished; it belongs, in the next place, to the present Outline to investigate the natural species of Physical Science according to universal analogy, and to reconcile them with those current or established forms of science from which they take their denominations; justifying, at the same time, our analogical theory by the coincidences of these acknowledged sciences, and the analogies of particulars and practice.

756. It is true, we might have proceeded in our analysis to develope the subordinate sciences without end, for the sciences are as numberless as the arts: but, on this account, also, it becomes necessary that some point should be established at which analysis should terminate; and since, in reconciling our arrangements with the established

or ostensible sciences and language, we are bound to take the latter as we find them, this point may reasonably be where analogy, in name and nature, becomes lost between the strict distributions of natural science and the denominations of the arbitrary and accepted sciences.

757. Accordingly, our present position is precisely that at which the denominations of the current and accepted sciences accord with the natural distributions to which we have assigned them; beyond which, analogy and coincidence become either defective, obscure, or lost. Here, therefore, our analysis should terminate; and, as the denominations of the established sciences denote both *theory* and *practice*, while in our previous distribution we have regarded science as purely theoretic, we may now, also, further justify or confirm our theoretic distributions by the coincidences of particulars and *practice*.

758. Now, the essential difference of theory and practice is that the first rests upon *universals*, and the latter upon *particulars*, whence the end of theory is the beginning of practice, and, *vice versâ*, the end of practice is introductive, or inductive, of theory; and, as there is no absolute particularity or universality, we may not only establish both theory and practice arbitrarily between these relative extremes, but we may also unite them with the same latitude.

759. Hence, the various arbitrary foundations

of the sciences, which sprung originally from imperfect inductions or generalizations of particular knowledge and practice, and the confounding therein of science, or theory, with art, or practice; and hence unavoidable anomalies, renitencies, and discrepancies, will arise in the attempt to reconcile the established sciences with the strict regulations and arrangements of a universal theory.

760. And, as particulars are infinite, and practice depends upon particulars, while our knowledge of particulars is necessarily deficient, and practice is proportionate to this knowledge, it follows, also, that the practical confirmations of theory will be proportionately limited, and far from complete and perfect.

761. Under the view, therefore, of harmonising theory with practice, or reason with experience, and of reconciling our specific arrangements with the corresponding acknowledged sciences, we commence with the physical branch of physiological science.

762. The *Physical Sciences*, then, have this in common, that their principal relations are *material* or *external*; and, in treating of them specifically, we must resort to material nature and experience for those analogical facts which in the higher genera, and in the universals of science, we take from the source of reason and reflection only; according to the universal forms of which we have already distributed these sciences under the

three specific heads of *Chemistry, Botany,* and *Medicine.*

763. These correspond to the three kingdoms of the Natural Philosophers, denominated the *mineral, vegetal,* and *animal* kingdoms; and of these we will treat, first, of Chemistry, which is the most material, physical, and external of the three: we say *external,* for, however remote from universality a science may be, it still partakes, as a whole and in its parts, of those extremes and mean which are the inseparable relations of science.

764. Physical effects are commonly divided into chemical and mechanical, — yet, indeed, all physical effect or motion is, primarily or in principle, *chemical;* and all mechanical effect or motion is secondary or dependent on power, or an agent which is not mechanical; and thus the whole of Dynamics, and all Mechanics, depend upon *chemical agency:* but this, as a doctrine, belongs to Ontology, and connects Physics with Mechanics.

# THE ANALOGY

OF

# CHEMISTRY.

# CHAPTER II.

## OF CHEMISTRY.

### SECTION I.

765. CHEMISTRY is that physical science which comprehends the *actions*, *passions*, and *effects* of all material substances.

766. Now, we have seen that all physical effects are subtended by, and must be the results of, an original physical *agent* and *patient*, or of the relatively flowing and fixed; and material substance can be known only in *effect:* while three primary states, or modifications of matter, are admitted, and no more; namely, the *solid* or fixed, or that state of substances in which their parts cohere and resist change; the *liquid*, or that state in which their parts equilibrate, change place reciprocally, or flow; and the *elastic*, or that state of substances in which their parts change place, impel, and repel each other, and are permanently fluid: states that are not absolute, but relative.

767. The ultimate elements of chemic matter are, therefore, the universal physical agent and patient producing effects under the solid, liquid, and elastic forms or states, and into these the elements of both antients and moderns may be resolved.

768. Thus, according to the most antient physics, the elements of matter are four, three fluid and one fixed,— *Fire, Air, Water,* and *Earth,* which have been regarded by modern writers in a literal sense, as denoting four distinct, simple, primary material substances, and as concurring principles, recognised by the antients in the production or composition of all material bodies; till, by the experimental analysis of these substantial elements, later chemists have resolved them into an indefinite and varying number of radical principles, undecompounded substances, or elements of matter.

769. If, nevertheless, the antients originally intended to denote by these four terms, not the *matter,* but the elementary modes or *forms* of material substances, preference is due, theoretically, to the permanent simplicity of this antient doctrine, however justly, in a practical view, the labours and discoveries of modern chemists may be valued and admired.

770. To the latter of these it yet remains to decompose, or resolve elementarily, the fifty-four substances at present regarded by them as simple

and elementary; and, as upwards of forty of these are *metallic*, the analysis of one metallic base will probably lead to the reduction of the whole, the primary oxygenous and hydrogenous elements excepted, and establish the true induction of the elements.*

771. We have assumed, therefore, that the true elements of chemic nature are an agent producing the solid, liquid, and elastic forms, or states, of matter, by the concurrence of a patient or re-agent; elementary states, antiently denominated after those natural substances in which they are most palpable and apparent, *as Action in Fire, Elasticity in Air, Liquidity in Water,* and *Solidity in Earth,* the last, and most passive or inert state,

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* It appears, therefore, to be the great problem of modern chemistry at present to decompose the simple *flagrant or inflammable bodies*, including the metals; when all the modern simple substances will be resolved into the sole pure *conflagrant substance* or supporter of fire, oxygen, and the sole pure *flagrant substance*, hydrogen, which two are synonymous or identical with the active and passive elements of all matter; and thereby the theory of Chemistry will be consummated, and a firm basis established for all physics.

Toward these there appears to be a strong tendency in the present investigations of Natural Philosophers; and the facts and opinions advanced in the recent ingenious and valuable work of our friend John Howard Kyan, Esq., so well known to the public by his eminence in practical chemistry, "On the Identity of the Elements of Light and Matter," are remarkable confirmations of this doctrine.

or form of matter: which states may be otherwise denominated *Gaseous or Ærial, Volatile or Evaporable,* and *Permanent or Fixed.*

772. In the opposite course of these elementary forms there is a regular progress from Passivity through Solidity, Liquidity, and Elasticity, up to pure Activity; at the same time, they are forms or states which reciprocate or interchange by the variation of agency and reagency: so that, having identity of relation, they all spring from, and resolve into, one original essentially triformal power.

773. In agreement herewith it is admitted, as an axiom of Chemistry, that, by the exhibition of a high degree of *agency,* as by fire, &c., all substances in the solid state become liquid; and, by a still higher agency, all liquids become elastics; and these, finally, resolve into elementary powers: for these states, as already remarked, are not absolute, but relative.

774. So, again, conversely, or by reagency,—as by cold, &c.—elements become elastics, elastics become liquids, and liquids become fixed or solid. Of the latter we have new proofs in the recent experiments of Mr. Kempt, who has succeeded, by the reagency of *cold,* in *solidifying liquid gases;* namely, the carbonic acid gas, chlorine, cyanogen, and sulphurous acid gases.

775. Finally, as action and passion are cogno-

scible only in effect or *concurrence*, the chemical agent and patient can be discovered in their effects alone. It is clear, therefore, that *the primary principles of matter, or the chemical elements, are not substances but powers,* and will ever elude the vain search of the chemist otherwise than in effect or combination; absolutely imperceptible as sensible passive substances, and cognoscible only as active powers intellectually: so that *the elements of matter are not material, but mental,* and therefore are not atoms, or corpuscles, as has been commonly assumed; for, as Dr. Hooke has justly remarked, no imagination can comprehend either the *maximum* or *minimum naturæ.* But if the chemist and natural philosopher assume them imaginarily for illustration, and thereby mathematize matter, he does no other than postulate points and atoms as elements: we must not, therefore, believe them to have real existence; and matter, however regarded as *quantitative,* involves in its notion *divisibility.*[*]

776. The above gradation, and the three states of the agent and patient, or the forms of substances, point out the course, and mark the divisions of Chemistry. We will, therefore, distribute this science with reference, 1, to Solids; 2, to Liquids; and, 3, to Elastics.

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[*] See passim, 676.

## SECTION II.

777. First, in regard to the CHEMISTRY OF SOLIDS, the physical patient may be considered, in the above view, as the predominating element, or basis thereof, and all effects and qualities of substances in the fixed, or solid state, are subjects of this department of Chemistry.

778. *Solids* are, in their primary classes, *Metalline, Terrene,* or *Saline;* and to these all compound solids may be reduced.

779. In the solid, or passive extreme of substances, are the *Metals;* which, according to our principle, are of three kinds, or participate of our three elementary forms as classes: thus we have *solid, liquid,* and *elastic metals.* Of the first of which, or solid metals, example is needless; of the liquid, we have an instance in Quicksilver; and of the elastic, in Potassium, &c.

780. And each of these is capable in various degrees of changing states reciprocally: thus *Zinc,* by the action or concurrence of the agent heat, or caloric, first liquefies and then sublimes. *Quicksilver,* also, by the addition or subtraction of this agency, evaporates, or becomes solid; and *Potassium,* which is in its natural state elastic, by the subtraction of its active principle, more or less becomes liquid or fixed. Metals are also distinguishable as *alkaline, terrene,* and *metalline.*

781. As metals are at the foundation of che-

mical solids — the remotest effects of the concurrence of the agent with the patient — it is probable that all substances may be reduced to the metallic, or inflammable state, by the subtraction of that principle which latently gives them their more active, or higher order, in the gradation of physical substances.

782. Second in the chemistry of solids are terrene substances, or the *Earths*, which, though less investigated in an elementary view than the metals, are sufficiently known to justify their distribution into three primary kinds; namely, the *Argillaceous* or Aluminous, the *Calcareous* or Alkaline, and the *Silicious*, — or Alumina, Lime, and Silica; for, notwithstanding we have other terrene substances which are regarded as primary, they are by no means so well distinguished as these, and rather to be considered as varieties, or compounds thereof.

783. The Earths, like the Metals, *liquefy* or *flux*, by the agency of heat, &c., and are capable of the *elastic* state, of which Fluo-silicic gas is an example; yet, as *solids*, they are next to the metals, and Davy has proved them to be oxides, reducible to the metallic state: conversely, indeed, the earths may be regarded as metallic oxides, and the oxides of metals may be regarded as earths.

784. Last in the chemistry of solids are *Salts*, or salines, which are also of three primary kinds; namely, *Acid*, *Alkaline*, and *Neutral*.

785. *Neutral salts* divide primarily, according to their bases, into *metalline*, *terrene*, and *saline;* and have been recognised as duple, triple, and quadruple.

786. *Alkalis* are also of three kinds — the *mineral* or fossil, the *vegetal* and the *animal;* or otherwise the dry, efflorescent or *solid*, the deliquescent or *liquid*, and the volatile or *elastic;* as instanced in Soda, Potassa, and Ammonia.

787. Finally, *Acids* have, in like analogy, three states and classes — the fixed, or *solid*, the *liquid*, and the volatile, or *elastic;* as instanced in the first class by Oxides and concrete acids, in the second by the common solutive Acids, and in the third by Carbonic acid gas, &c.

788. And these are, again, individually capable of the *solid*, *liquid*, and *elastic* forms, and naturally and practically partake of their relations: thus, the liquid, or solutive acids, are distinguishable, first, as fixed or solid, instanced in *Sulphuric*, *Fluoric*, and *Carbonic Acids*, which form insoluble salts or compounds, and are native, and abound in *mineral* solids; secondly, as deliquescent or liquid, such as are the *Muriatic and Nitric Acids*, &c., which abound latently in the immense liquid of the ocean and in *animal* nature; and, thirdly, as elastic or volatile, such as the *Acetic Acid*, which is the principal of the *vegetal* acids.

789. We speak not of *absolute* distinctions, for such have no place in genuine philosophy, nor

pretend to the naturally best or perfect distribution of chemical substances, our knowledge of the particulars of which must ever fall short of perfect inductions: every firm step of experience will, however, advance the generalogy of nature, draw nearer to universal forms, and improve and strengthen coincidence and analogy.

## SECTION III.

790. Secondly, of the CHEMISTRY OF LIQUIDS, which comprehends that *medial* state, or form of substances, in which Chemistry exhibits its principal effects. Solids require to be brought into this state before they can combine, or exert those elective affinities, as they are called, by which decompositions and new combinations are produced to infinity.

791. *Fire*, the chemical agent, has at all times been regarded as the principle of *fluidity*, which is the medial effect of the concurrence of the elementary agent and patient.

792. Of substances naturally *liquid* there are three principal,— the *Oleous*, the *Aqueous*, and the *Spirituous*, of which the first verge upon solidity, and the last upon elasticity. Of the first, the extreme examples are the animal fat Oils, &c., nearest to solidity; and of the last, on the other extreme, are the liquids called Ethers, which

border on the elastic state of substances; and each of these is capable of fixation and volatilization, or of the solid and elastic states.

793. Further, of *Oleous liquids,* we have the fixed animal *Fat Oils;* the gelatinous, or *Drying Oils;* and the resinous, essential, or *Volatile Oils.* Of Spirituous liquids, on the opposite extreme, there are *Acetose Spirits;* vinous or *Sweet Spirits,* or alcohol; and *Oxymelous Spirits,* or Ethers, in which the sweet and acid spirit are conjoined.

794. Between Oleous and Spirituous liquids is *Water,* pre-eminent among liquids, and central among chemical substances, being the mean of the medial or *liquid* form, in the constitution and effect of which the elementary agent and patient are in equal concurrence; which, at 32° of Fahrenheit's thermometer, becomes *solid* ice, and at 212°, *elastic* steam.

795. Of all natural substances, *Water* is the most abundantly diffused, it being also the chief agent in the chemistry of nature, and the most essential in that of art, if it be not even the matrix and medium whereby all other chemical substances are produced or evolved. Such, at least, has been a very antient doctrine, which is supported by modern discoveries; and certain it is that water performs a grand part in the economy of nature throughout the mineral, vegetal, and animal kingdoms.

## SECTION IV.

796. Thirdly, and lastly in our distribution, is the CHEMISTRY OF ELASTICS; and of these we recognise, first, *Vapours*, or substances rendered elastic by fire or free caloric; secondly, *Airs or Gases* permanently elastic by the agency of latent or combined caloric; and, thirdly, if we err not, there is another state of matter even more subtile than the gaseous, in which the chemical elements exhibit themselves in their primary and simplest combinations and concurrence, as active and passive, in *Ethereal or Vital fluids*.

797. *Vapours, Aerials*, and *Ethereals* are, therefore, gradient in the chemistry of Elastics, and the last of them are ultimate in chemical analysis, and intimately allied to the immaterial elements of chemical substances; and as they are final in chemical science, so are they the foundation of the organical or vital sciences.

798. Of the three species of Elastics, the first are *Vapours;* and of these there are the *solid* kind, or dry vapours, whence sublimation; the *liquid* kind, or humid vapours, whence distillation; and *elastic* vapours, — such as are the moisture of a clear atmosphere, steam at a high temperature, effluvia, &c. Of all which, and of all *evaporization*, fire, heat, or caloric, is the agent.

799. Secondly, of *Gases*, or permanent Elastics,

which are medial and principal in this branch of Chemistry, there are the Combustible, Inflammable, or *Hydrogenous Gases* — those which support combustion, or *Oxygenous Gases*. There are others, also, of an intermediate kind, which are products of, and destroy combustion, and such are *Carbonic and Azotic, or Nitrogen Gases;* all of which agree in being resoluble into caloric, or an *Active principle*, and a base, or *Passive principle;* and it is to the essential variety and formal relations of the original Agent and Patient that we attribute the diversity of the Gases.

800. Accordingly, we hold Nitrogen or Azotic Gas, which constitutes four-fifths of the atmosphere we breathe, to be the first, simplest, and most elementary compound of the two former, proceeding from, and participating, their active and reactive powers according to chemical election; and comprising elementarily the true *tria prima* of the chemist.

801. Of the manner in which these new and admirable products of this science result from, and enter into, the constitution of solids and liquids, we shall yet have occasion to speak, and they hold the principal place in most modern treatises of scientific and technical Chemistry.

802. Modern Chemistry has resolved the Solids and Liquids of nature into Elastics, and has distinguished these again into many different kinds. It has gone still further, and resolved these into

their unknown bases. It has also demonstrated the immense sensible and latent powers of these latter. The utmost praise is indeed due to the skill, acuteness, and industry of modern Experimentalists exhibited in the resolution and composition, or analysis and synthesis, of substances previously deemed simple and elementary, to the great obstruction of chemical knowledge. Yet is the way merely opened, and much remains to be done practically ere the phenomena of this interesting portion of nature can be perfectly reconciled with the theoretic demands of reason and universal science.

803. Thirdly, and finally, of *Ethereals*, which comprehend those subtle matters, the effects of which are apparent in Light, Heat, Motion, &c.: by the latter of which Chemistry is connected, on the one hand, with mechanical science; and by the former, on the other hand, with sensible science.

804. Experience is so recent, in this elevated department of Chemistry, as hardly yet to have furnished particulars sufficiently wide and various for a basis to its universal relations; yet even here we are not destitute of coincidence: and, from the present enterprising spirit and ingenuity of experimental philosophers, we may reasonably hope an early determination of their true doctrine and analogy.

805. Accordingly, Ethereals appear to be of

three classes or kinds, corresponding in relation to the three original states of matter: first, *Magnetic*, in relation to the Solid state, and pervading the globe we inhabit; secondly, *Galvanic*, or animal electricity, in relation to the Liquid state, and to this belong the Nervous and Muscular fluids; and, thirdly, *Electric*, in relation to the Elastic state, and permeating the atmosphere, if not, also, all Planetary and Siderary space.

## SECTION V.

806. Last of all, in Chemical Analysis, whether theoretical or practical, are those primary Elementary Powers of which Ethereals are constituted, and into which they have been resolved. Such are the powers of Electricity and Galvanism, which have been variously denominated positive and negative, vitreous and resinous, and those of Magnetism, called north and south, &c., but which, in each case, we have called Active and Passive, or Reactive, and, substantively, the *Agent* and *Patient*, as the coessentials of all chemical substances, and required as the first conditions of our analysis; but which, being correlatives and coessentials, must be, as they are, imperceptible to sense, and immanifest, except in their united *Effects* or concurrence, as in light, heat, motion, &c.

807. Hence Ethereals appear to be at once the foundation and apex of chemical substances, and

finally to resolve into the unknown and unknowable essences or immaterial elements of all matter.

808. If, then, the above distribution of Chemicals has been correctly deduced analytically, it follows that Ethereals are the base of all chemical substances synthetically: first, as the elements or constituent principles of *Aerials*, which, again, are elementary in, and constitute *Liquids*, of which Water is principal, and from which, finally, all *Solid* chemical substances are naturally or artificially generated and produced.

809. Such we hold to be the true chemical co-ordination and constitution of all matter theoretically; and, although this has not been demonstrated by an unbroken chain of practical proofs experimentally, yet it has been sufficiently evinced by general experience to afford a fair and legitimate induction in accordance with reason universally; we will, therefore, briefly adduce some of the leading facts and circumstances by which our analysis may be justified synthetically: and this is the more essential, because upon this science depends the primary ground of all Physics, and of all that is material in the sensible sciences.

## SECTION VI.

810. First, then, at the summit of *Ethereals*, is *Electrical Matter*, which has been proved and admitted to be of two kinds, or in two states, variously denominated positive and negative, vi-

treous and resinous, *plus* and *minus*, &c. The same doctrine has been transferred to the *Galvanic Fluid;* and, in the *Magnetic Fluid,* these states, or varieties, have been called Poles.

811. But these ethereal elements, or powers, might, perhaps, with greater propriety, have been denominated *Electral* and *Thamal*; or, chemically, Oxygenous and Hydrogenous; or, physically, Active and Reactive, or Passive,—or the *Agent* and *Patient;* which are, in each case, elementary, and perceptible only in union or concurrence. And so much for the chemical elements in their simplest latent concurrence in Ethereals.

812. The first material state of Ethereals, and the highest in the order of chemical compounds, is LIGHT, the ethereal constitution of which has been proved by the analysis of the sunbeam into *electral,* or oxydizing rays, and *thamal,* or deoxydizing rays, variously concurring together in *iridal* compounds in the constituting of COLOURS, exemplifying the first sensible states of those ethereals, which are latent in the electric, galvanic, and magnetic fluids, till brought into action.*

813. Of these Ethereal Elements are constituted, in the next place, *Aerials,* or Gaseous Substances; for no Electrical Matter can be ob-

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* Upon this subject we are in near agreement with the doctrine maintained by Mr. Kyan in his before-mentioned work "On the Elements of Light, and their Identity with those of Matter radiant and fixed."

tained by the machine unless Air or Gas be present. We hold, accordingly, that it is by the friction of the air taken in between the rubber and the glass, and the affinities of the levigating surfaces for the constituents of gaseous substances, that air is decomposed during the motion of the machine, the *active* or *positive* constituent principle of the air passing from the glass, and the *passive* or *negative* element passing from the Metallic Amalgama on the rubber; of which amalgamas, those alone which are constituted of metals easily oxydizable are well suited to this office: and that these two elements are separately located on the two sides of coated glass.

814. Whence we hold, further, that in electrical discharges,—as of a ball, or battery, &c.—the positive and negative elements which have been separated and collected being conducted into reunion or concurrence, *Air becomes reproduced or composed.* It arises, hence, that in a moist atmosphere the machine developes no electrical matter, no separation of the Aerial elements.

815. Culinary fire, like the Electrical fire, is produced by the *decomposition of airs or gases,*—the first chemically, as the latter is mechanically; and they are attended by similar effects, or phenomena, of Light, Heat, &c. In like manner friction will produce Culinary fire mechanically, as fire, heat, or caloric, will disengage Electrical matter chemically.

816. Culinary and Electrical fires are also identified in the striking fire of flint and steel, oxygen being latent in the silex, and the hydrogen, or inflammable principle, in the metal, and these elements existing compounded in the atmosphere in which they are struck; just as the electric spark and fluid are elicited between the siliceous glass and metallic amalgam from the air in which they collide, while neither culinary nor electrical fire can be developed *in vacuo.*

817. In many chemical and mechanical operations, natural and artificial, air is decomposed, and electrical matter set free. The atmosphere itself, which is in perpetual flux and reflux, motion and friction, continually affords signs of Electricity to a sensible electrometer; and it is hardly possible to rub any two substances together in a dry atmosphere without producing electrical *Action* and *Reaction*, attraction and repulsion.

818. The warm and dry paper on which this is written, and from which the pencil marks have just now been rubbed by caoutchouc with air between them, is so electrically excited as, on lifting, to raise the piece of paper beneath it, and to attract and repel other light substances.

819. Air is inhaled and exhaled by Plants and Animals — Vegetation is much influenced by Electricity. The Nerves and Muscles of animals generate, conduct, and operate, by what has been termed Nervous Fluid, Animal Spirit, &c., and are

powerfully affected by the electric and galvanic fluids; indeed, Aldini and others have exhibited the mutually attractive influence of the Nerves and Muscles, the double office of which has been demonstrated by Sir Charles Bell and others; and Dr. Faraday has confirmed the long-presumed identity of the electric and magnetic fluids. The same eminent Chemist has also just succeeded in obtaining, for the first time, an electrical spark from the *Gymnotus electricus*, or electrical Eel, evincing a like identity of the galvanic and electrical fluids.

820. All this may serve to evince that the same duple office and elements belong to the electrical, galvanic, and magnetic fluids, and extend their effects throughout chemical, vegetal, and animal nature, and all Physics. But, more especially, these and many other facts and phenomena render it remarkably apparent that *Ethereals are the elements of Aerials, or Gases*, and the educts of their decomposition, and that it is highly probable their differences lie in the nature of the airs decomposed; further, that the friction of the electrical Cylinder, or Plate, moving in *Air*, upon the Rubber, is adequate to its decomposition, by trituration of the air between a conductor and non-conductor, and the developement of its electrical elements; and that air is produced and recomposed in electrical discharges, as evinced by many experiments,

and by the gusts and currents of air which succeed lightning with thunder.

821. When we reflect on the immense quantities of the Aerials, or Gases, which are necessary to constitute a small portion of water, we shall not wonder if still more extraordinary volumes of Ethereals are requisite to engender or compose a minute quantity of Air; and when we contemplate the power of these principles, and the immense atmosphere which encompasses our Globe, in the solid constitution of which they are again more enormously condensed, we may form a sublime conception of the Elementary powers of nature, and a faint idea of the Omnipotence of God, "who maketh lightnings with rain, and bringeth forth the winds out of his treasures."*

822. As thus these *Elementary Powers* are the immediate constituents of *Ethereals*, and ethereals, again, are the elements of *Aerials;* so, in the next place, it has been indubitably demonstrated that aerials, or gases, are the constituents of *Liquids*, of which Water is pre-eminent.

823. From Light and Electricity, then, come that vast supply of *oxygen* which is the breath of life to the myriads of animal creation, and that still more abundant supply of *nitrogen* of which vegetal and animal nature are chiefly constituted;

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* Jeremiah, x. 13.

and these are the definite constituents of ATMOSPHERIC AIR, which maintains its proportionate purity by a power of precipitating other gases, and heterogeneous matters with which it may become mixed; in a manner analogous to the Chemistry and Mechanism by which water, also a compound of oxygen and hydrogen, effects its own purification by precipitation.

## SECTION VII.

824. WATER, according to the conclusive experiments of modern chemists, is constituted, both analytically and synthetically, of the two elastic fluids or Aerials denominated *Oxygen gas* and *Hydrogen gas;* which, according to the same authentic researches, may be each further analyzed into an agent called Caloric, and a patient, or Base; distinguished in the one by the term *Ogygen*, and in the other by that of *Hydrogen;* although neither these, nor their agent Caloric, have been exhibited materially to the senses, nor demonstrated otherwise than intellectually, except in effect or combination.

825. Accordingly, when these principles or elements are disengaged by electricity, combustion of the gases, or otherwise, they elude the senses till, by power of their affinities, they enter into new combination or concurrence; and this coincides strictly with the nature and office of our elementary *agent* and *patient*.

826. In the above Elastics, composed of cognoscible but imperceptible elements, we have, then, two secondary substances; the one Oxygen gas, the other Hydrogen gas; by the union or synthesis of which, in combustion, or otherwise, is recomposed the liquid called Water; and by the agency of Air and Water the greater part, if not the whole catalogue, of the undecompounded substances, deemed elementary by modern chemists, are produced: at all events, a sufficient number of them may be instanced, to justify our induction or generalysis of the synthetical production of *solids* from liquids, *liquids* from elastics, and *elastics* from the *Elements* of all matter.

## SECTION VIII.

827. Accordingly, it has been proved in Vegetal Nature that seeds germinate and increase in pure gases and distilled water, and in their growth and decay develope many of those substances by the combinations of which others are produced; such as are *Oxygen, Hydrogen,* and *Carbon,* of which the greater part of vegetal substances or products are triple compounds. Such, also, are the various Acids, Alkalis, Salts, Earths, Metals, Nitrogen, Sulphur, Oils, Sugar, Gums, Resins, &c., all of which we hold to be elementary compounds, and products of vegetation.

828. That *Carbon* is a modification of hydrogen

may be fairly induced; we therefore regard hydrogen gas as *volatile* carbon; carbon as *soluble hydrogen;* and the diamond as carbon *fixed:* and hold that they may be convertible through adequate re-agency.

829. Accordingly, the diamond, when burnt in oxygen, developes carbonic acid gas and water at the extremity of a long tube; so, oxygen and hydrogen gases burnt afford water and carbonic acid, and hydrogen and carbon are both antagonists of oxygen, and afford fire by combustion; while carbonic gas and water equally drown animals.

830. And further, plants from seeds grown in silex, sustained by atmospheric air and pure water, will afford a large proportion of *carbon;* whence, therefore, comes this carbon, but from elementary composition? For neither the air, the silex, nor the water, could have otherwise supplied it. What we have here advanced of the relations of carbon with hydrogen and oxygen applies also to the relations of azote or nitrogen with the same element.

831. An eminent instance of this Vegetal Chemistry occurs in a species of Aloe, which vegetates independently of solids and liquids, while suspended in the atmosphere or lying on the sands; growing, multiplying, and maintaining the perennial verdure and succulence of its bulky leaves; sustained by the elastics, light, heat, and air alone. The Air-plant also, a species of the Epidendrum, grows and blossoms under the like circumstances.

## SECTION IX.

832. So, again, in ANIMAL NATURE it has bee proved that Fishes will live, increase, and multipl supported simply by air and water, generating Lim in their bones and scales, as they do also Ammoni and various of the above, and other substances and knowing as we do, that vegetals, raised almo entirely by the agency of Air and Water, suppo the life, and supply the growth and increase Animals, we have fair scope for deducing th origin of all animal substances from the sam primary Elements.

833. These primary elements of all matter, w have seen, are the oxygenous and hydrogenou which combine in the simplest state, formin *nitrogen*, the distinguishing proximate element animal substances, and *carbon*, the chief eleme of vegetal substances; and all bodies, includin organic and inorganic substances, are variousl *oxides*.

834. Nor will it be inconsistent with facts if w regard physical life as performed, and all materi substances as produced by an instrumental proce or organism, operating chemically, by the mo subtile union of *Physics* with *Mechanics;* or, i other words, that all vital organization is but a adaptation of exquisite chemical apparatus, sem nally produced and consummately arranged; f

the especial physical and mechanical ends of the Creator and Contriver of all nature.

## SECTION X.

835. Nor is it in the Vegetal and Animal Kingdoms alone that evidence of our doctrine is to be found; Mineral Nature also affords testimony that even the Metals, the densest of *solid substances,* are, in some instances, the produce of vegetation; and of the production of metals immediately from substances of animal and vegetal origin recent proofs have been supplied by the fine chemical discoveries of Davy, who is also disposed "to regard the Metals as *compounds of Hydrogen;*"[*] and those no less eminent chemists, Bergman and Scheele, according to a prior hypothesis, considered the metals to consist of "*acid radicals* saturated with *phlogiston,*"[†] or the inflammable principle: both of which opinions coincide in the same theory. The metals are, therefore, ultimately traceable through the liquid and elastic forms to the latent elements of all matter.

836. The above suggestion of Davy is rendered extremely probable by the known compound and irreducible nature of Ammonium, so analogous in all its habitudes with the other alkalis and earths

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[*] Davy's "Elements of Chemistry."

[†] Withering's "Bergman's Mineralogy," § 133.

of known metallic bases; which metallic bases, in their turn, are in their chemical relations strictly analogous to the earths and alkalies in the production of similar salts, saline (or alkaline), terrene, and metalline.

837. In support of the same doctrine, it may be further remarked, that metals are found in all countries, commonly in the state of ores — not in rocks and strata, like the earths, the magnetic metals only excepted, for these are nearly universal — but in the fissures or clefts running through such strata, apparently washed and deposited there by chemical affinities or voltaic action; or in other instances diffused in large masses of vegetal and animal remains, brought together by the shocks, disruptions, or inundations the earth has evidently undergone, as evinced by the animal and vegetal fossils so abundantly discovered therein. It is also experienced by miners, that ores abound in the greatest richness at moderate depths; whence the metals seem to rank among the products of nature designed for the especial use, and placed within the reach of man.

838. Doubtlessly, according to this doctrine, nature requires for the production of a small quantity of metal a very large proportion of *vegetal matter;* and to the production of vegetal substances abundance of *water;* a small portion of water comprises immense volumes of *air;* air resolves into immeasurable *ethereal powers,* centri-

fugal and centripetal, radiant and fixed.—The power of the Creator is infinite! He has accordingly assigned to the Heavens unbounded space, and placed the Sun, as the Agent of our System, in its centre. The immense region of *air* which surrounds our globe exceeds the ocean in bulk, as much as a drop of *water* is exceeded by the airs or gases which compose it. To vegetals He has supplied the ocean; and to the comparatively small proportion of *metals* the earth contains, as the produce of ages, He has yielded an adequate source, in the successive production and decay of organized matter upon our globe; to the interior of which we may assign that physical *patient*, or principle, which may be presumed to concur elementarily with the *agent* in moving the planetary bodies, and in producing all the chemical phenomena of nature by electrical and voltaic or ethereal agency.

839. And as *mineral nature* sustains the *vegetal*, as *vegetal nature* does the *animal*, it may reasonably be inferred, upon the whole, that there are a boundless gradation and circulation of all physical substances, and that they are reciprocally convertible: a doctrine which accords remarkably with that which was antiently taught by Anaxagoras, the master of Socrates, and coinciding with the sacred records of the creation, so sublimely and philosophically delivered in the Book of Genesis.

840. We have thus endeavoured to shew in what manner and relation two simple trigenial

elements, neither of which can be exhibited independently, produce the boundless variety of material substances which nature and art present to our senses, by proving that such substances are resolvable experimentally into the mere powers of Action and Reaction, or *an Agent* and *Patient;* and having done this in various instances, it may suffice, in justification of a theory which reason founds upon universal principles; and it ought to satisfy the inquirer after truth, because the particulars of nature are numberless.

841. Nevertheless, experiment and inquiry into nature will long continue necessary to the perfectionating of theory; and the more so, because intellectual analysis is insufficient to satisfy the Chemist and practical Philosopher, who trust only to the decisions of sense and experiment.

842. As *Water*, which is the centre of chemical substances, is constituted of *Ærials*, as Ærials are of *Æthereals*, which alone have a pure *Elementary* constitution, so from Ærials and Æthereals, by the medium of water, are produced all other liquid and solid substances; and since all chemical substances are constituted of the same Elements, *Water* must necessarily be regarded as chief among chemical substances, and *Oxygen* and *Hydrogen* gases as the first *palpable Elements* of all Matter, and chief efficients in all chemical phenomena.

843. It appears, hence, that all chemical substances are oxides of hydrogen; that fire, light,

and air, water, and earths, are oxides of hydrogen, or hydroxides, variously combined and constituted, as has been variously proved of salines, terrenes, metallines, and aqueous liquids; it follows, also, that *nitrogen*, which constitutes the four-fifths of the atmosphere, is also a hydroxide hitherto undecomposed, which, combined with the one-fifth more of oxygen, constitutes atmospheric air.

844. That so few and simple elements should constitute the infinite variety of substances, natural and artificial, might well astonish us, were we not acquainted with the fecundity of *numbers*. "The combinations of *pairs* and *triplets*, in a collection of five ingredients," says Dr. Black, "are so numerous, that it is in our power to bring out any ultimate compound that we please, by properly selecting the order of succession of their mutual actions."

845. As water partakes most naturally the general form of *liquids*, and air does the same of *elastics*, so light or fire is the natural and general form of *ethereals;* for where light is, there is fire; and there is no impropriety in speaking of Magnetic, Galvanic, and Electrical fires: but *Water*, *Air*, and *Fire*, involve the three Active Elements—the most antient recognised forms of the elements of matter, of which, in the same respect, *Earth* is the *solid* or general natural form of the Passive Element.

846. And that Chemistry should run into triple

distinctions in its various developements, may be attributed to the evident original triformity of its elementary powers; the Agent and Patient of all Physics, identified in electric, galvanic, and magnetic phenomena of light, heat, motion, &c., predisposing naturally to triple combination and arrangement.

## SECTION XI.

847. Inadequate as our theory, thus slightly denoted in a universal view, and as a mere link of universal science, unargued and unsupported by the details of experiment, may appear to the professed chemist, we have nevertheless found therein an advantageous and unerring guide to success in our practical researches; the particulars of which have, however, another and appropriate location, and, together with the more general interpretation of physical phenomena, and the interminable particulars of chemical operations and productions, demand too much of time and space to be admissible here; we may therefore content ourselves with a few further brief applications.

848. One of the chief phenomena of Liquid Chemistry is *Fermentation*, which has been recognised as of three kinds — the *Acetous*, the *Vinous*, and the *Putrefactive*; and may justly be regarded as a Galvanic operation, or elementary action or election, wherein Sugar chiefly, in which Hydrogen abounds, is brought into electrical action by the

medium of Water, composed of Oxygen and Hydrogen, and aided by Air and Heat, whereby double decomposition ensues, new affinities are exerted, and new compounds produced; the oxygenous element generating an acid gas, in which Oxygen predominates, and the hydrogenous element an inflammable or vinous spirit, in which Hydrogen predominates.

849. If the oxygenous developement by *active fermentation* prevail, the fermentation becomes Acetous, and produces Vinegar; if the *passive fermentation* prevail, the ferment becomes Putrescent, and alkaline and hydrogenous substances are produced, such as Ammonia, sulphuretted Hydrogen and Carbon; and if a middle and *concurrent fermentation* take place, neither redundantly active nor passive, the acid and inflammable elements combine in the formation of Wine and Ardent Spirit, or Alcohol.

850. To the vinous fermentation the *hydrogenous* element is principally necessary; as the *oxygenous* element is to the acetous fermentation, and the *nitrogenous*, or compound element, is also to the putrefactive fermentation; and each of these modes of fermentation belongs in succession to VEGETAL NATURE, which, again, reflows through them to its original elements.

851. But to ANIMAL NATURE, which supports itself upon vegetal matter, and is also more compounded and *nitrogenous* than the vegetal, the

*putrescent fermentation* chiefly belongs; and of this, we have seen, *nitrogen* is the chief agent, through which, again, animal matter is resolved into vegetal nature, and returned to the elements from which they spring, to circulate again in perpetual course, from the elementary and inorganic to the organic and animate nature.

852. Again, Solution, Precipitation, and all the chemical phenomena of liquids, may be regarded as like electrical and elementary actions or affinities; and in the chemistry of solids the processes of oxidation and reduction, or metallization, by the oxygenous and hydrogenous elements, belong also to the same agency; but it is to Ærials and Æthereals, less palpable and manageable to sense, that the chief application of this elementary theory applies: thus, in regard to the nature and effects of Light, of which Scheele and others have demonstrated the compound constitution, by resolving it into two substances — the one bleaching, the other blackening — the one oxygenous, the other hydrogenous, or de-oxydizing, or phlogistic; but of this we have treated elsewhere.*

853. In mechanical electricity these elements exhibit the same powers; for if substances having opposite affinities for the *oxygenous* and hydrogenous elements, or different conducting powers, be powdered, mixed, and blown from a tube or bellows

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* Chromatography, chap. iv. p. 36.

through the air against an excited Electrophorous, the one substance will fly to the positive surface, the other to the negative, as shewn by Lichtenburgh and Cavallo; even as a mixture of copper and iron filings may be separated by a magnet.

854. The Galvanic action of the Metals—Electrical decomposition of Air—Constitution of the Gases—production of Colours—motion of the Heavenly bodies—Vegetal and animal life, and Sensation as physical,—in a word, the whole Physical Universe falls naturally to the account of the same Elementary Agency, and will become of easy interpretation to the Chemist; the illustrious among whom have already paved the way to these assumptions of universal theory.

## SECTION XII.

855. The sum of our argument physically is, that as reason demands, so experience demonstrates, that all material nature depends primarily upon one sole physical Agent and Patient, which are in Chemistry an active or Oxygenous and a reactive, Hydrogenous or phlogistic principles, elements or powers, which concur in the production of Solids, Liquids, and Elastics; and that, in fact, there are no other elements than powers — agency, reagency, and coagency, into which whatever has been regarded as elements may be resolved.

856. As passion is reaction, and thus resolves

into agency, it is manifest that all *Physical Existence* is ultimately grounded upon action, or an Agent; *Action and Existence* are, therefore, physically and metaphysically synonymous.

857. In like manner, all metaphysical or *intellectual existence* resolves into *Relation*, which is the Category of mind, as *Existence* is of matter; and action and passion are universal relations as well as principles.

858. Thus, Powers are Intelligences; and into One *Universal Intelligence* flows all Essence or existence — the ground of all things; beyond which inquiry falls upon inanity — all faculties fail — and imagination itself has neither basis nor buoyancy.

859. If this theory is well founded, it affords us a sublime physical and metaphysical analogy, whereby God and the world become reconciled according to reason and the sacred records, wherein at the creation God, the triune Eloim, manifested himself personally in *the elements* — in *light* and *darkness* — in his *Spirit*, whereby he separated them* — in the *rainbow*, wherein he united them at the covenant — in *fire*, to Moses and the Israelites — in *lightnings* and *whirlwinds*, to Elijah and the people at Horeb and Mount Carmel. He whose *ministers are a flame of fire* — who is *every*

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* "He separated his *light* from the *darkness* with an *adamant*."—*Ecclesiasticus*, xvi. 16.

*where* and in all things—*whom no man hath seen nor can see*, any more than he hath seen or shall see the elements. And this doctrine reconciles the physics and theology of the Bible according to reason and experience.

860. It may yet, perhaps, be objected, that we have accommodated things to our theory; that complete experimental proof must be had to confirm it; and that it is at variance with the accredited theories which have been adduced from well-concerted experiments. Let it be noted, therefore, that natural philosophers are by no means agreed in their theories; that all theory consists but of relations of a general or universal kind, with which particulars agree; that particulars are infinite; and experiments and facts, however numerous and extensive with regard to any particular, are still but partial, and to be perfectly demonstrative of a theory they must be universal, which is humanly impossible; and that no general or particular theory can be ultimately true which is not part of the true universal theory.

861. It follows, therefore, that the present must not be tried by any theory founded on partial experiments instead of universal reason, for such is itself but presumed; because experiments are not demonstrations, but only illustrations and presumptions of theory; and it is sufficient if our theory be conformable to reason, and free from incongruity with facts.

862. Philosophers, like other men, are prone to extremes, and have in modern times laid too implicit stress upon the evidence of experiment; for though experiments afford facts, which are evidence to the senses so long as they are seen or experienced, there are in every experiment effects and incidents too numerous to be noted with all their circumstances, and too varying to be depended upon till often repeated, and confirmed under all possible conditions: hence, the experimenter himself is compelled to generalize in every instance, and to judge and conclude altogether by the aid of coincidence and analogy, as we have done; for we have shewn sufficiently that all logical inference resolves into the same *reason,* and all reason is relation; and therefore the inductions of partial experience, if true, are but the remote analogies of universal reason.

# THE ANALOGY

OF

# BOTANY.

# CHAPTER III.

## OF BOTANY.

### SECTION I.

863. THE second and intermediate science of Physics, termed BOTANY, comprehends whatever in science belongs to *Vegetation and the organization of matter*, and might, therefore, be appropriately called *Phytology*.

864. The inorganic substances of Chemistry are the ground and support of the organic productions of Botany, or of all Vegetal nature; and Vegetals, in their turn, afford the matter, and become the sustenance, of all animal and sensitive nature: for vegetals supply elastic oxygen to the air, and hydrogenous and carbonaceous solid edibles to animals, from which, in return, they receive carbonic gas, azote, and hydrogenous manures, &c.

865. That which the *Polypi* are in animal nature, the *Fungi* are in vegetal nature: the one

is the intermediate of the animal and vegetal kingdoms, the other connects the vegetal with the mineral kingdom, while their extremes, the mineral and animal, are united by the *Zoophytæ;* the links by which the genera of Physics are connected.

866. As Chemic matter requires to be elaborated by vegetation before it can become the food and sustenance of animals, *Vegetation* is the chief mean by which *sensitive being* is united with the *material.*

867. Botany, therefore, takes in Physics the relation of medium, and participates of its two extremes. Hence, not only are there in this respect three orders or genera of plants, but *Botany* is also allied to *Chemistry* in respect to the soil and matter of vegetals; and to *Medicine,* or animal science, in respect to their organization and functions.

868. We may, therefore, divide Botany into three parts, or subordinate sciences: the first, in respect to the *Chemistry of Botany,* or the elementary principles of vegetals; the second, in respect to the relations of vegetals, their genera and species, &c., or *Particular Botany;* and the third, in respect to the organs, offices, and purposes, of vegetal, or Organic or *Medical Botany,* which together comprehend the matter, form, and functions, of Vegetals.

## SECTION II.

869. To the first, or Chemical Botany, belongs Agriculture, which comprehends the *matrix*, or soil of plants, their *pabulum*, or food or manure, &c., and the *products* or fruits of Vegetals.

870. Accordingly, *Soils*, or the matrix of plants, consist of the various substances of Chemistry, but principally of the Earths, in which the agriculturist has primarily the *Calcareous, or Chalky soil;* the *Argillaceous, or Clayey soil;* and the *Siliceous, or Sandy soil.*

871. Soils are, secondarily, the *Marly soil,* composed of Clay and Chalk; the *Loamy soil,* composed of Sand and Clay; and, more rarely, a soil composed of *Sand and Chalk:* but soils in general consist of mixtures of the above three primary kinds of Earths, and the best soils are constituted of these in certain harmonic proportions.

872. In this respect, also, nature has every where harmonized the superstrata with the substrata of land; so that there is no soil, however barren, that has not beneath it the materials and principles by which it may be fertilized: thus, beneath Sand, is found clay, loam, or marl; beneath Clay, sand and chalk, or limestone; and, beneath Chalk, is found silex or sand, and clay, &c.: and these by mixture fertilize each other.

873. It is not, however, to be understood that soils exist commonly in the absolute simplicity and order above mentioned, but only that they may be thus relatively distinguished, since they are compounded with all the substances of nature, and in boundless variety adapted to the support of the various vegetal tribes; which are also, doubtlessly, qualified by a corresponding analogy of genera and species to those of the soils whereon they are destined to flourish.

874. The *Pabulum,* or food of plants, involves the Solids, Liquids, and Elastics of Chemistry: of the first of which are hydrogenous, nitrogenous, and carbonaceous *Manures,* mineral, vegetal, and animal; of the second is *Water,* which is medial and principal in vegetations; and, of the third, are oxygenous *Airs, Light,* and *Heat,* by which vegetals are actuated: in fine, the Agent and Patient, the Oxygenous and Hydrogenous Elements of Chemistry, are those which form, increase, and nourish vegetal substances.

875. And so admirably are the chemical relations and natural harmonies of material things adapted to each other, that the *Manures,* by which vegetal productions are increased, are natural to the soils by which they are produced, and the animals by which they are consumed return gratefully to the soil that feeds them manures adapted to produce those plants which are again best suited to their own sustenance: thus, the

manure of sheep and rabbits fertilizes the soil for fine herbage; that of kine, for rank herbage; while that of man is adapted to the vine, corn, and the fruit of trees; and it may be regarded as a general law, that every animal affords those principles of fertility which encourage with the best economy those productions of the soil which are best adapted to its own nature and improvement; whence the horticulturist may draw from analogy means for invigorating and carrying to perfection, according to their uses, the various races and kinds of plants.

876. And, finally, of the *Products* of plants, are the various drugs, aliments, and materials, which sustain the life, growth and vigour, restore the health, or contribute to the convenience, enjoyment, and well-being of the animal frame and nature. So much concerning the divisions of chemical Botany, and the beginning, means, and end of Agriculture in its widest acceptation.

## SECTION III.

877. Secondly, of the Relations of Plants, or *Particular Botany,* to which the term Botany has in its ordinary sense been almost exclusively confined; yet this is more properly *Phytology,* or the Natural History, than the science of vegetal nature, although it is subject to the same analogy. Such

also is *Zoology* with respect to animal nature, and *Geology* with respect to mineral nature, in the three grand divisions of Natural History; but history, whether natural, experimental, or civil, must not be confounded with science and philosophy, since the sole business of history is to record facts and to furnish materials for science. The present division is, however, medial and principal in this department of Physics.

878. Plants have been divided by Jussieu, in his " Genera Plantarum," into three primary classes, coinciding with those of Linnæus, with triple divisions and subdivisions, thus:

- PLANTÆ.
  - 1. Acotyledones.
  - 2. Monocotyledones
    - 1. Stamina hypogyna.
    - 2. ——— perigyna.
    - 3. ——— epigyna.
  - 3. Dicotyledones ..
    - 1. Apetalæ ..
      - 1. Stamina epigyna.
      - 2. ——— perigyna.
      - 3. ——— hypogyna.
    - 2. Monopetalæ
      - 1. Corolla hypogyna.
      - 2. ——— perigyna.
      - 3. ——— epigyna.[*]
    - 3. Polypetalæ
      - 1. Stamina epigyna.
      - 2. ——— hypogyna.
      - 3. ——— perigyna, &c.

In this there is much of our regimen.

879. Tournefort has proposed a different system, and Linnæus another; and Lefébure, in a late system, has attempted to reconcile these three

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[*] The two classes omitted here are artificial.

systems by dividing plants into *two classes,* and these again into *three orders,* according to the insertions of their leaves: *one by one,* the first order; the second, *two by two;* and the third order, *three by three;* which orders he again subdivides into *twelve tribes.*

880. Although there may be both truth and agreement in these arrangements, yet the veracious system of nature appears still to be wanting, and must be that by which vegetal organization is regulated, and to which sensible forms and animate sexes are only incidental.

881. The late eminent Professor of Botany at King's College, struck forcibly by the evidence of our analogy throughout Botany, and also in medical science, has illustrated these sciences by abundance of instances thereof; among which he has, in the Introduction to his "Botany," laid down the following scheme:

| | | | | | |
|---|---|---|---|---|---|
| PLANTS. | Musts, or Worts. | Flags, or | Algæ | Acotyledones | PLANTÆ. |
| | | Mushrooms, or | Fungi | Mycaffines | |
| | | Mosses, or | Musci | Cellulosæ | |
| | Leas, or Herbs. | Ferns, or | Filices | Monocotyledones | |
| | | Grasses and Sedges, or | Gramina | Termaffines | |
| | | Palmes, Lilies, &c., or | Palmares | Endogenæ | |
| | Cresses, or Plants. | Pines and Zamias, or | Zapini | Dicotyledones | |
| | | Cresses, Fruges, or | Eucarpæ | Crescaffines | |
| | | Selworts, or | Selanthi | Exogenæ.* | |

882. The above table is accompanied by a

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* Burnett's "Botany," vol. i. p. 23.

similar one, indicating the primary groups admitted by Linnæus, as follows:

VEGETABILIA.

| | | | |
|---|---|---|---|
| Monocotyledones, vel Fruges. | Palmæ, or | Palms | (Principes) |
| | Gramina, or | Grasses | (Plebeii) |
| | Lilia, or | Lilies | (Patritii) |
| Dicotyledones, vel Plantæ. | Herbæ, or | Herbs | (Nobiles) |
| | Arbores, or | Trees | (Proceres) |
| Acotyledones, vel Cryptogama. | Filices, or | Ferns | (Novaccolæ) |
| | Musci, or | Mosses | (Servi) |
| | Algæ, or | Flags | (Vernaculi) |
| | Fungi, or | Mushrooms | (Nomades); |

and these tables are in the course of the work extended in a coincident manner to the particulars of Botany, and according to what is properly called the natural method, classification, or system.

883. Plants have been vulgarly distributed into Herbs, Shrubs, and Trees, and these again subdivided each into Foliaceous, Flowering, and Fruit-bearing: it is true, also, that every individual plant is subject to one or all of these latter distinctions, which are but relative to the supereminence of its flowers, its foliage, or its fruit. And it has been suggested, that, of the present two grand divisions of *Phænogamous*, or flowering plants, and *Cryptogamous*, or flowerless plants, the latter should be subdivided into Vasculares and Cellulares,* thus:

PLANTS.

| | | |
|---|---|---|
| Phænogamous vasculares, | Cryptogamous cellulares, | Cryptogamous vasculares. |

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* R. H. Solly, Esq., "Tr. Soc. Arts," 1832.

884. But, with respect to the relations, organization, and propagation of plants, there are yet the celebrated distinctions of the Linnæan, or Sexual System, above named, according to which they are *Male*, *Female*, and *Hermaphrodite*, &c.; a system into which, however admirable, we need not enter, since its illustrious author has declared that "there is another and more natural method, or Nature's System, which we should diligently endeavour to find out." And this system, when truly developed, will be found to coincide with the true physiology of vegetals universally.

## SECTION IV.

885. And to this belongs that third department which we have termed, for distinction's sake, MEDICAL BOTANY, comprehending what has been called the physiology of vegetals in relation to the anatomy, organization, and propagation, life and growth, of plants; a science yet in its infancy, and without an accredited name.

886. Plants are distinguished in this respect distributively into roots, stem, and branches; constitutively into bark, ligneous fibre, and pith; and organically, as possessing a triple vascular system of tracheæ, or *air vessels*, analogous to the lungs of animals; *sap vessels*, analogous to their blood vessels; and *absorbent vessels*, analogous to lymphatics, and destined to the various offices of

the vegetal economy, conducive to life, growth, and fructification. The seeds of plants are also distinguished by a like triplicity of parts, or organs, in their *Radicle, Plumula,* and *Cotyledons.*

887. The late microscopic improvements of Messrs. Varley, Valentine, Turrel, Slack, and Holland, recorded in the "Transactions of the Society of Arts," &c., and the admirable demonstrations of vegetal circulation exhibited thereby in the *Chara vulgaris,* or stone croft, and other plants, by which animal and vegetal physiology have been in a degree identified, render it probable that, by a well-concerted system of comparative vegetal and animal anatomy, the analogy of circulation and organization in plants and animals may be fully confirmed, and the true relations of these sciences finally established.

888. That the mechanical, chemical, and vital laws respectively, to which plants are regarded as subject, are dependent on the æthereal powers, to which we attribute all material phenomena, we have little doubt; and that these, as concerned in vegetation, are analogous to the oxygenous and hydrogenous, or active and reactive elements, of Chemistry, there are many indications in the observations and theorizings of botanists, &c.

889. Such are the influence of the two powers of Electricity—the Endosmose and Exosmose of Detrochet—and the contrasting colours of the two fluids observed by the artistic eye of Varley in

Tradescantia, one of which fluids was yellowish or cream-coloured, the other strong purple, which are colours effected by the oxygenous and hydrogenous principles of light, and are constituents of the olive colours of vegetal nature commonly called green, and also analogous to the diversity of venous and arterial blood in animals; the first of which has a purple hue, and the last partakes of yellow in the composition of its colour.

890. In these, and other respects, the nature of plants verges upon that of animals,—they have a like solid and vascular organization, supported by circulating liquids,—are alike sexual and generative,—the seed of each is uniform in producing its kind, in all their varieties,—the offspring resembles in each its immediate parents, yet bears an infinite diversity of features, so that neither plant nor animal exists in perfect resemblance to another of its kind; and hence in each the foundation of the culture and improvement of the race.

891. As there are carnivorous animals, so there are carnivorous plants — some that live on the flesh of others, some that inhabit the bodies of others — and that are incapable of sustenance upon the simple mineral soil. The analogy of animals and plants is exceedingly close; and carnivorous plants, like carnivorous animals, are common inhabitants of the swamp and the jungle.

892. Nor is the line which separates vegetal from animal nature accurately distinguishable, of

which the *Mimosas,* or sensitive plants, on the one hand, and the Polypes and several Zoophyte aquatic productions on the other, are remarkable illustrations; and these Zoophyta, or animal-plants, have this analogy, that they are either *Madripora,* which are tubular; *Millepora,* which are cellular; or *Corals,* which are ramified or branched. Indeed, physiological relations are so subtile, and the gradations throughout the universe, from the lowest matter to the highest mind, are so finely marked as to require sight of more than mortal acuteness to distinguish precisely and with decision.

893. Upon the whole, too little has been contributed from the particulars of nature, and the inductions have been too narrow and few in this infinite department of physical science, to establish it upon its universal basis; we leave it, therefore, to experience to supply this deficiency, content, for the present, that no barrenness of coincidence obstructs our progress to animal science, the third and highest branch of Physics immediately connected with the present science, and that in which the analogies of nature are more abundantly unfolded and better inquired into and distinguished.

# THE ANALOGY
OF
# ZOONICS, OR MEDICINE.

# CHAPTER IV.

## OF MEDICINE, OR ZOONICS.

### SECTION I.

894. THE third and last of the genera of Physical Science is MEDICINE,* or ZOONICS, which comprehend all Animal nature, as Botany does the Vegetal, and Chemistry the Mineral, or Material Nature.

895. Zoonics, or animal science, may be divided technically into *Zoonomia*, with respect to the kinds of animals; *Zootomia*, with respect to their structure, or anatomy; and *Zooatria*, with respect to Medicine, or the healing art; which latter professionally, and in common acceptation, comprehends the three.

896. As Chemical nature supplies materials for the sustenance of vegetals, so Botanic nature yields vegetals, by which animal nature is sustained; and these comprise the three kingdoms

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* We call this branch of Physical Science, Medicine, in deference to custom and the profession to which its investigation principally belongs.

of Nature universally acknowledged by Natural Philosophers, called the mineral, vegetal, and animal kingdoms, and the whole circle of Physics, or Natural Philosophy.

897. As organization and propagation distinguish Vegetals from Chemicals, so sensation and volition distinguish Animals from Vegetals; but while we admit these distinctions in physics, they are not absolute, but relative, there being in each some participation of the others: hence there are a *chemical* or material, and a *vegetal,* or organic nature, in *animal* nature.

## SECTION II.

898. Animals, regarded according to their Genera and Species, &c., the science of which is *Zoonomia,* are naturally and commonly distinguished according to their relations to the elementary regions of Earth, Air, and Water, as *Beasts, Birds,* and *Fishes;* kinds sufficiently distinct, yet not absolutely separated, but have their secondary forms, of which the Amphibii, &c., are examples. Nor are they yet exclusively, but only predominantly, dependent upon their appropriate elements — earth, air, and water, being alike essential to each; while the gradation of their various genera and classes is as remarkable in this as in every other department of nature.

899. A distribution, according to their animal

or vital functions, is, however, more scientific and suitable than any distinctions drawn from external circumstances, or from any other science; and such, for example, is that of the late Professor Burnett, as follows:

900. ANIMALS.

- Skin-breathing. Spiraculata.
  - Insecta—Insects—
  - Vermes—Worms—
  - Zoophyta—Zoophytes—Plant-allies.
  - Extra-spirantia.
- Gill-breathing. Branchiata.
  - Pisces—Fishes—
  - Mollusca—Fish-allies—
  - Crustacea—Shell-fish—
  - Medio-spirantia.
- Lung-breathing. Pulmonata.
  - Bestiæ—Beasts—
  - Aves—Birds—
  - Reptilia—Reptiles—
  - Intra-spirantia, &c.*

901. Many zoological classifications into orders, genera, and species, founded on the Natural history of animals, have been invented, abounding in interest and variety, of which that of Linnæus has been the most reputed; still the true analogical order of nature is a desideratum in this ample department of Physics. So much, therefore, in briefness, for Zoonomia; to ZOOTOMIA, which comprehends as principal the matter, organizations, and functions of animals, a more particular inquiry is due.

## SECTION III.

902. ZOOTOMIA, to which belongs the nature and functions of animals, has three relations — the chemical, the vegetal, and the animal. Re-

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* Brand's Jour., 1828, p. 400.

garded *chemically*, Animals have in their bones and *solids* that which is principal in their chemical or material nature; in their circulating *liquids*, they have that which is principal in their vegetal nature; and to respiration and vital fluids, or *elastics*, belongs that which is principal in their animal nature.

903. Considered as *Vegetal*, animals are produced seminally in their like kinds, in endless succession; their whole internal organization derives its growth and sustenance from externals: and finally, they fructify sexually.

904. And in their *Animal* or proper nature, Animals have three systems, with correspondent analogy; first, the *Lymphatic system;* secondly, the *Sanguiferous, or Blood-vessel system;* and, thirdly, the *Nervous, or sensitive and voluntary system*, in which, by the concurrence of the physical elements, all the functions and phenomena of animal nature are effected; and as these functions have different forms and variety of organs in different species of animals, they afford, perhaps, the best natural ground for their classification.

905. Animals are indebted for their chemical or material being, growth, and sustenance, to the reception of those *passive substances* or reagents which have been elaborated by vegetation (the food of all animals being, mediately or immediately, the products of vegetation); and the substances thus obtained as food are assimilated by

the concurrence of *an agent*, such as is afforded by the air variously breathed or respired by animals.

906. Accordingly, it has been determined by Anatomists that a portion of the aliment of animals is taken up by the Lacteals of the Lymphatic system, and received into the blood, and that the blood, passing into the Lungs, by decomposition of the air respired, takes from it its *active or oxygenous principle*, whence the heat, involuntary motion, and life of animals; and further, that the blood, passing into the brain, the Nervous system is invigorated by the Sanguiferous: how, otherwise, than by the secretion of *Active Powers?*

907. In further confirmation of this doctrine, we may adduce the *active* and *passive* functions of each of these animal systems; and first, of the *Lymphatic or Absorbent system.* The Absorbents, which pervade the whole animal frame or structure, appear to have a Passive office in the reception of the nutriment, &c., of animals by the Lacteals, and an Active office in the reabsorption and evacuation of the deleterious humours of the animal frame by the Lymphatics;* and it is admitted that the changes of food in the digestive organs are threefold, with three distinct organs for the three processes: the Stomach for *Digestion;* small Intestines for *Chylification;* and large Intestines for a *third process*, hitherto unnamed.†

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* According to Akenside and Dr. Monro.

† Abernethy "On Local Diseases," p. 20.

908. Digestion is both an animal and chemical process, being an incipient fermentation, to which the juices secreted by the stomach and palate give a hydrogenous and putrefactive tendency; for if it becomes either vinous or determinately acescent it is defective, against which nature has protected the general system by the admixture of an alkaline biliary fluid, which precipitates the food on its passing from the stomach, saponizes the chyle and chyme, carries off the salts by solution, and the solids by the fæces.

909. Thus, Digestion appears to be the lowest of the three primary functions of the animal system, whereby the matter of animals is wrought and assimilated, and that which is excrementitious evacuated. Its organs appear to be transfused throughout the whole vascular and fibrous structure, from the intestinal membrane to the epidermis, between which there is a connexion and remarkable consent or concurrence. Upon the whole, however, this system is passive in relation to the following.

910. Again; the *Sanguiferous system* more satisfactorily inquired into, and its offices better authenticated than those of the former, is acknowledged to be *active* in its arteries, in which the blood is charged with active influence, and *passive* in its veins, in which the blood is deprived of its active principle, and probably charged with passive matter for emission or new concurrence in the lungs, or passing off by the lymphatics. Accord-

ingly, Priestly remarked that venous blood acquired a scarlet colour when in contact with *Oxygen gas*, and that arterial blood became dark red by the contact of *Hydrogen gas;* so that a reciprocal conversion or change of colours took place between them.

911. Finally, the Brain, the root of the *Nervous system*, consists of two parts, the Cerebrum and Cerebellum, which conjoin and form the Medulla Oblongata and Medulla Spinalis; and every Nerve of the animal system, through which the nerves are distributed in pairs, having two offices; the one of an *active* kind, with the muscles; the other, of a *passive* kind, with the organs of sense: the one producing voluntary motions; the other receiving sensible impressions.

912. This has been remarkably confirmed by the late admirable discovery of Sir Charles Bell, who has shewn that the muscles have two kinds of nerves, on exciting one of which the muscles contracted, or *acted;* but on attempting to excite the other, *no action* took place; and this nerve, which had no power to make the muscle contract, was found to be a *Nerve of sensation.*

913. Thus, it has been proved that there is a nervous circle connecting the muscles with the Brain; that one nerve is not capable of transmitting what is called the Nervous spirits in two different directions at one instant; but that, for the regulation of muscular and mental action, there

is a *Nerve of Sensibility*, to convey a sensation of the condition of the muscles to the sensorium, as well as a *Nerve of Motion* for conveying the mandate of the will to the muscles; the one *physical and sensible*, the other *mechanical and moral;* and that these nerves are in general so duplicated, as it were in a sheath, as to present to the eye the appearance of a single nerve.*

914. The doctrine of the double office of the nerves, demonstrated by Sir C. Bell, is a natural inference of reason, and is said to be as old as Galen, who had asserted that there were both *nerves of sensation* and *nerves of motion* — and to have been confirmed by Dupuytren, who shewed that nerves were of two kinds — one connected with the *pulsation of the heart*, and the other with the *motion of respiration;* and that the brain rises synchronically during the systole of the heart, and falls during the diastole.†

915. From the above it appears that the three animal systems conform in their twofold *active* and *passive* offices; and as the blood is of double composition, and exists in the animal structure in two opposite states, *venous* and *arterial*, so the peculiar substance of the brain, transfused throughout the Nervous system, exists in two states, *Medullary* and *Cineritious*, analogous to which are, perhaps,

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* Bell on the Hand, p. 196.

† Elogé upon Baron G. Dupuytren, before the R. Acad. Med., 1837, by M. Pariset.

the Lymph and Chyle of the Lymphatic system. Of these latter the lymph is conveyed from all the cavities of the body, and mixed with the chyle conducted by the Lacteals to the Thoracic duct, and thence mixed into the Heart and Lungs; with the blood of which Lymph appears to form one of the constituents, and Chyle, after passing through the lungs, the other.

916. A similar antagonism allocates the principal organs of these systems: thus, the extreme organs of the Sanguiferous system are the Heart and Lungs; those of the Nervous system are the Brain and Muscles; and those of the Lymphatic system are the Stomach and Liver.

917. To each of these systems, with distinct organs, has been assigned distinct regions or abodes; to the nervous system the *Head;* to the sanguiferous the *Breast;* from which the principal lymphatic organs are separated by a strong membrane, which confines them to the *Abdomen* beneath; while each from its principal mansion diffuses itself ramifically throughout the whole animal frame, whereby the muscles are composed of filaments or branches of nerves, blood-vessels, and lymphatics, in triple union.

918. To the same analogy belong the distinguishing features of the human temperament and character; thus, the subject in whom the nervous system predominates is distinguished by *mental*

*capacity*, the frequent concomitant of a feeble frame. He, again, in whom the blood-vessel system predominates, is distinguished more by bodily strength, active powers, and a *sanguine temperament*, less marked by powers of mind; while he in whom there is a predominance of the absorbent system is characterized by *sensuality*, equally inimical to body and mind. Thus, the source of mental capacity belongs to the *head;* that of corporeal power to the *chest;* and that of sensuality to the *abdomen;* as, however, no subject exists without either of these, so all partake of the influence of each; whence the infinite diversity of physical temperament and character by which human nature is distinguished.

919. The corporeal nature, then, of Animals in general, and of man especially, is in systematic harmony with universal nature; and not only do they harmonize in system, but in progress or series also. Thus, the Lymphatic system and *chemical* nature are first developed and matured; the Blood-vessel and *vegetal* nature of animals next; the Nervous system being last in the exhibition and completion of the *animal* functions.

920. As the *Blood* is replenished by the operation of the lacteals, or Lymphatics, which elaborate the *chyle and chyme,* so the Blood-vessels and Nerves coalesce at their extremities, where the nerves secrete from the blood those *active powers, or Nervous*

*and vital spirits*, by which all the functions of animal life are performed; and this, too, in a regular course, from the material to the mental.

921. So much with respect to the corporeal structure and nature of animals; but *sensation and volition* are principal in animals, and that by which they are distinguished from other physical objects. These, we have seen, are physically dependent upon the last and highest of the animal functions, or Nervous system; and since the original physical agent and patient are the basis of all physical science, and have been traced to the apex of chemical elastics in the ethereal and vital fluids, it becomes highly probable, and agreeable to universal analogy, if not physically certain, that this highest of the animal functions produces these distinguishing effects by the concurrence of the vital fluids.

922. As the ethereal, or vital fluids vary in kind, and are in each the effects of an agent and patient, whose variety of effects depends upon their essential triformity, they may belong variously to the nerves and muscles; whence the difference of active and passive powers in each, and their mutual action and reaction, with all their effects, or phenomena.

923. Hence the physical *agent*, predominating in the nerves, may, by the predominance of the *reagent* in the muscles, produce *voluntary and involuntary* motions; and accordingly it has been

demonstrated by Aldini that a vital attraction subsists between a nerve and a muscle. Hence, also, the *passivity* of the nerves may, by the concurrence of external *agency*, produce all the *effects of sensation*, as we have attempted to shew with regard to vision, light, and colours.*

924. And hence, finally, the mutual *agency* and *reagency* of the nervous system, in its highest office, may effect all *the phenomena of thought;* and if so, these active ethereal powers, these ultimate principles of matter and vitality, are essentially identical with, and physically demonstrable to be immaterial, and also MIND, for between the immaterial and mental there is no medium. The perfect proof and induction of which demand an experience of nature at once the most subtile, expanded, and profound.

925. When we consider the infinity of *animal* and *vegetal* nature, the bounds of which lie beyond the wonderful disclosures of the Microscope, and that the *chemical elements*, pursued physically, are traced beyond material subsistence into mind, or the simple consciousness of existence, we may by analogy conclude that the zoonic, like the chemic elements—the genesis, the first conditions of animal and vegetal life and being—lie also beyond the confines of physical, material existence, in the pure fountain of animation and consciousness—the

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* Chromotography, pp. 34–40.

great, universal, moral source of life and being, material and mental.

926. The above is in strict agreement with the principles of action, sensation, and thought, which, in another point of view, resulted from our universal analysis, and we shall have much to record in the sequel which may serve to confirm our doctrine.

## SECTION IV.

927. There remains yet, to complete the outline of Animal science, ZOOATRIA, the healing art, or Medicine in its vulgar acceptation, which takes cognizance of the diseases of animals and their remedies, and of those of Man in particular, under the technical denomination of Nosology.

928. Now Disease consists in the disorder, injury, or depravation of the matter, organs or functions of the animal structure, and varies in kind accordingly; hence the analogy of animal nature applies equally to health and disease; and these are either *universal, general,* or *particular and local.*

929. Accordingly, diseases may be regarded *universally* as of two classes, the *Active,* in which disorder of the functions is induced by redundance of action in the animal system arising from too great accumulation of active power, or deficiency of passive power; and, secondly, the *Passive* class, in which disease is induced by redundance of

passive power, or deficiency of the active: and these concur in a third, or *Intermittent* class, and compound and vary in degrees without limit, comprehending all diseases termed *Fever;* fevers are, accordingly, *universal* diseases.

930. In like manner, there are diseases of a *general* kind infecting the Nervous, Sanguineous, or Lymphatic systems; whence nervous, pulmonary, and bilious diseases, &c. And, finally, there are *particular* and local diseases; and such are diseases of particular organs, tumours, wounds, &c.: in all of which there is greater or less affection of the general and universal system.

931. And this agrees sufficiently with Dr. Cullen's classification of diseases; namely, the *Febrile,* or Sanguineous; Neuroses, or the *Nervous;* Cachectic, or *Secretory,* absorbent or lymphatic; and Local affections, which belong to the three animal systems equally. It agrees, also, equally well with the recent arrangement of Dr. Young, whose primary classes of disease are Nervous, Sanguine, Secretary, Structural, and Mechanical, of which the two latter are particular and local.

932. As diseases of the body may be attributed to excess or defect of the primary animal powers, so also may those of the mind, in which, in the most general way, *Madness* may be regarded as the active excess of mental faculty, and *Folly,* or *Idiotism,* as the passivity or defect thereof—each in all its variety and various composition; while

unusual strength or prevalence of one faculty, organ or function, is commonly possessed at the expense of another, whether of body or mind: whence men of extraordinary memory are often deficient of reasoning power, while others in the exercise of strong judgment are often deficient of memory, and those who possess both these faculties remarkably are deficient of imagination. Nevertheless, these faculties, like the bodily functions, are variously coessential, and the entire perfection of the mind physiologically consists in a due balance and subordination of its faculties, and not in any excess of either, and peculiarity of genius may be the consequence of false organization, or diseased faculties; but we are entering on a theme of immense scope.

933. And, as diseases in general result from redundance or deficiency of active or passive powers in the animal systems, so also the remedies opposed to them are *active* and *passive,* as are the two original physical elements. Accordingly, the active and passive substances of Chemistry become the active and reactive, or stimulating and sedative, remedies of Medicine; and it results, hence, that nature furnishes a remedy for every disease, and has left it to the art and experience of man, and the instinct of other animals, to discover them. Nevertheless, the chief inquiry in sickness, contrary to the universal practice, ought to be not so much what the patient should *take,* as what he

ought to *avoid;* for disease is invariably induced by acceleration or obstruction of the functions of nature, which it is the office of the physician to regulate and restore; just Prescription in Medicine appears, therefore, to be principally negative.

934. Having thus sketched an outline of Physics—the science of matter and the external, whereby we have been conducted through *matter* to *sense* and *thought*—we have fulfilled our main intention of indicating the analogy, or form, which harmonizes the physical sciences upon universal ground; and, confiding our outline to the current of experience for confirmation, rectification, and perfect establishment, we prepare to follow it with the more ostensible analogies of the Sensible Sciences.

## OUTLINE VI.

# ESTHETICS:

OR,

THE ANALOGY

OF THE

SENSIBLE SCIENCES

INDICATED.

# THE ANALOGY

OF

# THE SENSIBLE SCIENCES

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## INTRODUCTION.

935. Hitherto, we have proceeded with an even tide through Disciplines and the *Logical forms of science*, forms of speech, forms of thought, and forms of things, terminating in Mechanics; which, again, link with the *Physiological matter of science*, of which we have delivered the physical outline; from which we shall continue, in a direct course, through the Sensible and Moral sciences to the *Teleological arts, or efficient ends of science:* our process coinciding in these respects with the celebrated order of causes as *formal, material,* and *final;* while it illustrates the system of science by its series.

936. The subject of the present outline is, accordingly, the *Esthetical Sciences,* which are the middle, or sensible division of the series of science, comprehending the second, or intermediate branch

of physiological science, of which the physical sciences, discussed in the preceding outline, constitute the first, as the moral sciences, which follow hereafter, will the third and final branch.

937. As the physical sciences are instrumental to the corporeal wants and well being of man, the esthetical sciences minister to his sensible enjoyments; and as the material and manual arts pertain principally to the former, so do the fine, or refined arts, to the latter, although not exclusively so in either case.

938. It is to these latter arts transcendently that the present branch of science owes its chief importance: it is also of a more intellectual bearing than the former, lying, as it does, between the physical and moral sciences as a mean, and partaking of the nature of both, yet depending in a manner upon principles different from either; principles not to be looked for, like the physical elements, in external nature alone, but to be sought equally as facts of experience in nature, and as uniform impressions of passive intellect or sense internally.

939. And here, if we must admit that the physical sciences and arts are more important for their necessity in the early stages of life and society, it cannot be denied that the esthetical sciences and arts are no less so in the progress of man for their harmonizing powers, their moral influences, and the graces and dignity they confer

upon man and society in their maturity. They are the blossoms of the plant of science that engender the salutary fruits of moral intelligence.

**940.** It is not, however, our business to write panegyrics upon particular sciences, but to exhibit, as well as we are able, the symmetry and connexion of the whole. There is something, nevertheless, in these sciences, peculiarly excitive of enthusiasm and emulous of taste, for they are, in consequence of their middle station, more intimately connected with the imagination than the physical sciences are, which draw more upon memory and induction on the one hand; and more so than the moral sciences are, which depend chiefly upon reason and analogy on the other; yet are they not independent of either faculty.

**941.** Accordingly, *taste* belongs to sense in conjunction with judgment; and that exercise of sense with the judging faculty, by which we distinguish the beautiful and harmonious in objects, the agreeable in feeling, or which even determines in us the sentiment of moral approbation, is not altogether improperly named after the lowest of the senses, *taste;* since this sense is that in which the agreeable is first developed, and that by which the mind is first excited to distinguish and to choose, when animal nature in man is barely raised above the vegetal.

**942.** Taste is, then, an act of judgment, as much as the computation of numbers is; the difference only is, that the first is a judgment of relations in sensations, producing *sentiment*, the latter a judgment of intellectual relations terminating in *reason*, or ratio. Hence, all judgments terminating in sentiment are judgments of taste; and sentiment is the reaction of intelligence upon sense, or of active upon passive intellection; and thus taste intellectuallizes sense.

943. *Taste* is, accordingly, sensibility, extending from the lowest objects of appetite to the highest affections of the mind; although, under a proper limitation, its chief object is beauty with regard to sense: of which more hereafter, when we come to treat of Beauty as an end.

944. Taste is, therefore, an exquisite sensibility, regulated by judgment; or, finally, it is in all cases a sense, or sentiment of harmony; that is, a *general* sense: to which belongs, also, negatively, a distaste, or sense of discordance or incongruity, that attaches sense to judgment in taste, for sense is of particulars, and judgment belongs to generality.

945. Taste, then, extends with propriety to every object of sense, and, doing so, it must have a principle by which it is identified in each of the senses; and it is the chief intention of the present outline to disclose this principle, and to indicate the analogy by which the Sensible Sciences are more intimately related and connected among themselves, and more remotely so with the whole family of the sciences.

946. We have attempted to demonstrate, in our preceding outlines, the ground upon which this analogy reclines, and to illustrate it by the coincidences of the physical or material sciences, whereby we have arrived in a natural course at the esthetical or sensible.

947. To these sciences, which have not been treated of conjointly, some advantage may arise individually from the study of their general relations, since the identity of their universal archetype, or paradigm, may become a light to their individual obscurities, and the science of one may be reciprocally reflected upon the others.

948. Such advantages are not, however, peculiar to the esthetical sciences, but are in various degrees common to the other branches of science; while these sciences, deducing their form and principles both from the internal and the external, and referring to distinct senses as a medium or basis, have thence a diversity which is attended by some intricacy of relations, but which is, nevertheless, compensated by the remarkable coincidences with which these sciences abound, whereby we have been enabled to trace their reciprocal fundamental similitude and uniformity, and their conformity with the plan and paradigm of science universally.

949. It contributes powerfully to the evidence of the truth of our universal plan, as deduced from the analogy of reason, that the elementary triad in each of the esthetical sciences is founded on

able fact, accurately determined in each by opriate sense, common to all men without n, remission, or appeal.

. Thus each has its triad of principles, from if we take, there is deficiency, and to which, ld, there is redundancy; and it is sufficient nind that they are facts to all men original imate. Why they are so? or why they h as they are? are questions appropriate to r power, and beyond the capacity of man to perfectly; and these triads stand, like the s of matter in the composition of bodies, as ctive or regulative of all the varieties of nd illustrative of the form of all science;

# CHAPTER I.

## ESTHETICS.

951. The term Esthetics, in its widest signification, denotes that genus of physiological science which comprehends whatever lies between *physical* or material, and *ethical* or moral science, which are the two extreme genera of physiological science, correlative with the *esthetical* as their mean. Esthetics, therefore, comprehend whatever belongs to the philosophy of sense, as distinguished from matter and intelligence.

952. We may regard the world physically only, as a world of *matter;* we may regard it, also, intellectually, as a world of *knowledge;* and we may regard it, esthetically, as a world of *sensation.*

953. We have, as appears in our first outline and synopsis, traced the course of science in the second of these views, which in a manner comprehends the other two, without ascribing any thing

to physical causes or material elements, and without attributing any thing to sensible impulse. In each of these other views, however, a similar distribution would arise, because they do but vary the same universal view.

954. If, therefore, we were to unfold universal science *esthetically*, we should, in place of the

Intellectual Genera,

External, Medial, and Internal,

and their various sciences descending, substitute the

Sensible Genera,

| Orexetics — | Esthetics — | and Pathetics. |
|---|---|---|
| Science of *Appetites*, as *Physical*, or *Active*; | Science of *Sense*, as *Sensible*, or *Concurrent*; | Science of the *Passions*, as *Moral*, or *Passive* or *Reactive*. |

955. And such would be our proper course in a special and particular treatise, in which this science was to be principal, and not subordinate to universal science, as it is in this place. Yet, in treating of the sensible genus of science in this outline, some attention to such a distribution will be expedient to completeness; with due deference, nevertheless, of its extremes to the sciences more purely and especially sensible.

956. The entire investigation of this subject would carry us throughout all animal nature, of which *sense* is the distinguishing attribute, and among the different orders of which it is variously inherent. But, although each of the senses indi-

vidually may be found united to a more perfect organization and more acute perception in the lower animals, to whom other senses have been altogether denied, or variously subordinated; or among whom organs, or modes of sense and intelligence, unknown or incomprehensible to man, may have been supplied, to which they may owe their many surprising instincts; yet it is on man alone that the general forms of sense are most bountifully bestowed in such due perfection, and so balanced as to hold mutual correspondence, and to operate most effectually in concert to the ends of knowledge and science. It is to *human sense*, therefore, that we limit our inquiry, although the wider investigation is fraught with curious matter and most interesting comparative science.

957. Human sense, then, in its widest acceptation, comprehends, first, the *Appetites*, instincts, or bodily affections; secondly, the *Senses*, properly so called; and, thirdly, the *Passions*, or mental affections: and these are correlative species;— the first conducive to *being*, the second to knowledge or *knowing*, and the third to volition or *doing*.

958. But, as our present and principal aim is knowledge, or science, we might here set apart the consideration of the doctrine of the *appetites*, which administer to the material functions of sensitive beings on the one extreme, and that of

the *passions,* which accede to their active and moral nature on the other, and not improperly confine our investigation to the medium of the *senses* alone.

959. Science, however, like nature, is not only a *perfect system,* but it is also an *entire series.* Hence, the connexion of the sciences is as remarkable as is their distinctions, so that where one ends another begins, and there is no link wanting in the universal chain; and hence the esthetical sciences begin where the physical sciences terminate; and where the esthetical and sensible sciences end the ethical and moral begin.

960. Accordingly, our last outline has conducted us to that grade of animal science in which the sensitive system is founded, and with which the Appetites are more essentially and intimately connected. To preserve, therefore, the course of the sciences unbroken, we will first briefly sketch the *sensitive system* in its transition from physical science through the *Appetites,* and reserve to the conclusion of this outline some further consideration thereof, and of the *Passions,* through which this system glides into the ethical and moral.

961. As the sensitive system holds the middle station in objective and physiological science, so in subjective and logical relation it is widely remarkable that our appetitive inclinations, our sensitive tastes and operations, and all the passions and sentiments

with which the mind is affected, are all under the powerful control of the *Imagination,* which is the middle faculty of the understanding.

962. In animal nature there appear to be a *passive or involuntary system,* and an *active and voluntary system;* to the first of which belong the appetites, and to the second the passions, between which lie the senses, or *sensitive system.*

963. Of the *involuntary system,* respiration appears to supply the agent essential to its effects; for, after much respiration, an accumulation, or predominance of active power or agency, appears to have taken place in the animal structure, which demands a concurrent patient to sustain and invigorate animal life; and such demand is the *desire of food,* aliment or sustenance.

964. Of the modes of animal sustenance there are three essential to life, in chemical relation with three corresponding desires, or appetites; such are *hunger* and *solid* food, *thirst* and *liquids,* the desire of *breath* and *elastic* air.

965. Second to these is the *desire of exercise,* to which belongs the doctrine and functions of sleep and watchfulness; and it may be inferred, that as, during sleep, the functions of digestion, respiration, and circulation proceed, while the exhausting functions of life are suspended nearly an equal time, secretion and accumulation of active powers take place in the vital system producing

the *desire of exercise,* or love of action, love of life, &c.

966. And, thirdly, there is the *sexual desire,* concurring in the functions of *male* and *female,* respecting which it may be assumed that the secretion of active power in the seminal organs of the male, and of passive or reactive power in the ovaria of the female, reciprocate the sexual desire; accordingly, arterial and active power predominates in the masculine system, while venous and passive predominance is remarkable in the feminine system.

967. And these three—the passive desire of food, the active desire of exercise, and the concurrent sexual desire—furnish an outline of the appetites; and they have physical relation severally to the *chemical* matter, the *vegetal* functions, and the *animal* propensities of life.

968. Opposed to the involuntary is the *voluntary system,* in which the power of the nerves is the agent, and that of the muscles the reagent, producing the effects of voluntary motion, &c., or *active will,* and the various passions of the mind, or *passive will.*

969. The existence of a reactive power in the muscles has been demonstrated by Galvani; and to the nerves has long been attributed an active fluid producing the operations of *volition* and vitality in one direction, and conveying to the mind the

*sensations* of external objects and internal feelings in the other. Galvani, Volta, Aldini, and others, have also proved that nerves are necessary to muscular contractions, and that these contractions are produced only in the voluntary muscles, but not in the involuntary—such as the heart, &c.

970. As wherever muscles are blood vessels are, and as a very considerable portion of the circulating blood is distributed and passes through the brain, it becomes highly probable that the powers of the nerves and muscles are derived from the blood, and that thus the voluntary and involuntary systems are united in a *physical*, as they are shewn to be in a *sensible* respect, by the important discovery of Sir Charles Bell (before quoted) of the double structure and antagonism of the nerves, by which they are involuntarily active in one direction, to convey sensation to the brain, and voluntarily reactive, in the other, to convey the mandates of the will to the muscles; and these accord with the *intellectual* or moral relation of volition or will, with the involuntary intellect or consciousness, which are the active and passive functions of the mind.

971. In considering the appetites, senses, and passions according to their distinguishing relations to the higher genera of science, we have here regarded the first in a physical or material respect; the second, being more purely esthetical, we proceed to treat of in their sensible relations; and

refer the more particular consideration of the passions to their moral relations, although they are each susceptible of either view, as they are also of all of them; and with particular advantages, too, when they are treated of in their different relations as distinct sciences.

972. Regarding *sense*, then, as purely esthetical, or as distinguished from appetite and passion, it is, with respect to science, the universal *medium* of concurrence between the material or *external* subsistence, and the intellectual or *internal*, and the ground of all our knowledge of external objects by the organs of touch, taste, smell, sight, and sound, commonly called the five senses. Of these senses, in their material and organical references, it may merit a passing remark, that the organs, as situate in man, are analogous to the chemical elements and forms of matter to which they are related. The Eye, to which belongs the ethereal element, is the uppermost of the sensible organs; the Ear, which operates through air and ether combined, is placed a little lower; the Nose, which is efficient of scent through air and effluvia, somewhat lower; the Mouth and Palate, the seat of tastes and liquid sense, is still lower; and the organ of touch, the Hand, the universal and solid sense, is placed beneath and beyond all, as a basis for the whole machinery of sensation.

973. These senses, though five in number, as thus organically or physically distinguished, are, as

instrumental to science, but three in kind; namely, *feeling* or touch, *seeing* or vision, and *hearing* or sound; for taste and smell are but species of touch, which is the universal organ of sense, and also the most external of the senses: it is first, therefore, in physical and sensible relation.

974. In this latter respect touch has a triple reference to the three essential forms of matter — as palpable touch to the *solid,* as taste to the *liquid,* and as smell to the *elastic* or volatile. The two latter senses are, indeed, conjointly appropriate to the appetite of hunger, and the links which connect appetite with sense, but contribute little to knowledge or science.

975. The senses of touch, sight, and sound, are, accordingly, instrumental and appropriate to three distinct generic sciences — of the *tangible,* the *visual,* and the *oral:* the first of which may be called PLASTICS, or the science of figure, as it belongs to sense, and of which the chief organ is the hand, extending thence to the whole nervous system; the second of these sciences is CHROMATICS, of which the eye is the organ; and the third is HARMONICS, of which the ear is the appropriate organ.

976. And these three — Plastics, Chromatics, and Harmonics—are the sole genera of the sciences purely esthetical or sensible, of which the first has three modes of space or mensuration; namely,

longitude, latitude, and profundity; the second has two principal dimensions, longitude and latitude; and the last has properly one only dimension, longitude. We proceed to treat of, or to trace, these sciences briefly in succession.

977. We have shewn that all the effects of sense depend upon the concurrence of an *agent* and *patient* manifesting themselves physically in their most subtile generic forms in the effects of light, heat, and motion; and as light and shade, or their principles, are the first forms of the agent and patient to visual sense and chromatic science, as *white and black*, so are motion and rest, or vibration,* to oral sense and harmonics in *sound and silence;* and so, finally, appear naturally to be heat and cold, of which the most general sensible effects may be called pungence and expandence, distinguished intellectually as the *point and space.*

978. As we have shewn that the elements of chemic matter originate in mind, and are no otherwise objects of sense, so we have shewn experimentally † that sensation does not belong originally to its organ, but to the *sensorium,* or mind, also; and that hence, by reaction, the senses are liable to be deceived by the prejudices of the mind, and that the effects of organic representations are by

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* *Vibration* consists of a rapid alternation of motion and rest, varying and producing variety of sounds.

† Chromatography, Experiments XIV. and XV.

no means the realities they appear to be to common sense and perception. Hence, also, the false judgments and delusions of idiots and maniacs are, in many cases, attributable to disease of the *sensorium* inducing false intellections; and, *vice versâ,* to imperfect or disordered intellection reinducing fallacious perceptions.

# PLASTICS:

OR,

# THE ANALOGY OF FORMS, &c.

# CHAPTER II.

## PLASTICS.

### SECTION I.

979. Plastics, or *the science of the symmetrical relations of Figures*, treat of the shapes, figures, or forms of external sense, which primarily belong to palpable sense, or touch: it accords, therefore, in the view of accepted science, with Geometry, as confined to *sense and taste;* and is distinguished from practical Geometry, which belongs to *material magnitude* and mensuration; and from the higher mathematical, or *pure* Geometry, which belongs to pure *intellectual forms*, or ideal figures,—partaking of both as pure and applied, and referring to the same ulterior and elementary principles of form or figure.

980. The three dimensions of figure,—*length, breadth,* and *depth,*—are modes of magnitude or *space;* which is, accordingly, the patient or passive principle of this science, as position, or the *point,* is its agent or active principle.

981. The point and space, or position and magnitude, are, accordingly, the relative extremes, or given conditions,—the agent and patient, or concurring or generating principles of all shapes or figures; and the point or position, space or magnitude, and shape or figure, may be regarded, *practically, as sensible,* according to our present view; or, *theoretically, as intellectual,* according to pure geometry.

982. We may, then, define the sensible and plastic *point* to be *an extremely minute space indicative of place or position.**

983. Pure, or *perfect figures,* belong not to sense, but to intellect, as forms of the mind, although they must be supposed to exist potentially, or in capacity, in all bodies; as the statue exists in the block of marble in ideal beauty before it is extricated by the art and skill of the statuary.

984. From the simplest concurrence or progress of a point in space springs longitude, or *length;* from its duple procession arises latitude, or *breadth;* and by the triple procession of the point in space is generated profundity or *depth:* whence LINES, SURFACES, and SOLIDS.

985. Thus the *Line* is the fluent of a point, the *Surface* is the fluent of a line, and the *Solid* is the fluent of a surface; and these concur in the gener-

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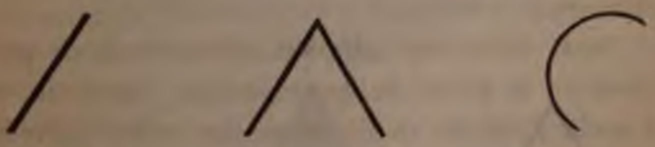
* See Vol. I., par. 648.

ation of all sensible and imaginary figures: of which, and in what immediately follows, we do but repeat in another view, as essential to the philosophy of beautiful forms, that which we have already advanced under Geometry of their physical and material relations.

986. Fluence is either direct, reflect, or inflect. By the simplest, or direct fluence or concurrence of the point in or with space, is generated the Right Line; by the reflect motion is generated the Angular Line; and by the inflect, flowing, or motion of a point, the Curve, or Circular Line, is generated: and these are the genera of lines, and the primaries of all figures; of which the second comprehends more space than the first, and the third more than the second. *E. g.*

*Fig. 37.*



Line. Angle. Curve.

987. As the three primary modes of magnitude, longitude, latitude, and profundity, concur in all sensible figures, it is evident that each of the primary lines partakes of them, and thence each derives three principal forms. Accordingly, the first,

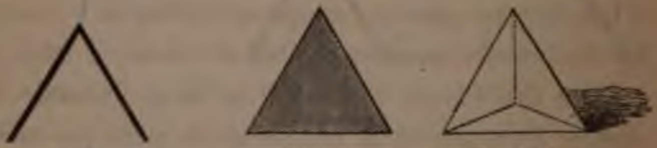
or Right Line, has the form or dimension of *length* only; or it has therewith also *breadth*, and then it becomes a Parallelogram; or, finally, it has also with these *depth*, and then it becomes a Parallelopipedon; and of these the shades, or intermedia are infinite. *E.g.*

*Fig.* 38.

Right Line. Parallelogram. Parallelopipedon.

988. Again, the second of the primary figures has, *linearly*, the Angle; to which, if simple *surface* be added, it becomes the Triangle; and if to these *depth* be superadded, it becomes a Tetrahedron; and these, also, have infinite intermedia. *E. g.*

*Fig.* 39.



Angle. Triangle. Tetrahedron.

989. Finally, the third remaining primary figure is, in its simplest form, *linearly*, the Arc or Curve; if it include *surface*, it becomes the Circle, or circular; and, if *depth* be added, it becomes the

ORB, or SPHERE; which, again, have their infinite intermedia. *E. g.*

*Fig.* 40.

Curve. Circle. Sphere.

990. Thus there are three distinct elements of *linear figure*, the same of *surfacial figure*, and the same of *solids*.

991. As *Lines* are generated by the procession, or are a series of points, so are *Surfaces* generated in like manner by lines, and *Solids* by surfaces. Thus, by the motion or fluence of a Point, direct, reflect, or inflect, is generated the Line, *right*, *angular*, or *curved;* secondly, by the lateral motion of a line at all points is generated the *Parallelogram*, by the distention of a line from a given point is generated the *Triangle*, and by the revolution of a line on any point is generated the *Circle;* thirdly, by the direct progression of an entire surface is formed the *Parallelopipedon*, by the protrusion of a surface from any point progressively to its perimeter is formed the *Pyramid;* and, finally, by the circumvolution of a circle upon its diametrical line is generated the *Sphere*, which has been paradoxically regarded as an infinite polygon.

992. Such are the primary figures as determined by the various concurrence of their first principles,

the Point and Space; and as the first of these, or the Line, departs least from the nature of the Point, so, still true to these relations, the last, or Sphere, comprehends most space or body, and approaches nearest to the nature of space in general.

993. That so few and simple elements should, by an almost inconceivable fecundity, supply materials for the infinity of plastic forms, and the boundless variety of geometrical figures, is as wonderful as it is worthy of that superlative Being who, in the words of the eloquent of Dr. Barrow, "always acts geometrically."

## SECTION II.

994. From the combinations of these plastic primaries spring a SECONDARY and COMPOUND order of figures: thus, by the concurrence of *linear* and *angular* figure, is generated the PRISM; by that of *linear* and *circular* figure, is constituted the CYLINDER; and by the only remaining general combination of these primaries, or *circular* and *angular* figure, is generated the CONE: and these three, like their primaries, have their infinite intermedia.

*Fig.* 41.

Prism. Cylinder. Cone.

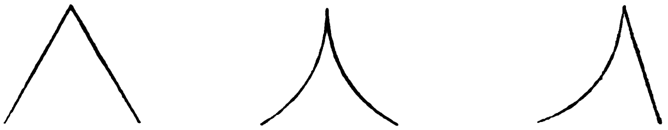
995. In like manner, by secondary combination, other and more complex orders of figures arise, into the intricacy of which we need not enter, since the above are sufficient to denote, by way of outline, in what manner the primary Line, Angle, and Curve, concur in the constitution of all possible figures—and we have already instanced their geometrical relations in a preceding outline; our design here being principally to illustrate those relations of figure by which they are connected with, or which terminate in *sense* and the beautiful.

996. We have, therefore, adduced only the genera and first species of figure upon the ground of universal analogy, and of these every individual partakes of the same formal relations: thus the Point, with reference to figure, is either *central, secant,* or *terminal;* the Line, with reference to position, is *horizontal, oblique,* or *perpendicular;* the Angle, with respect to space, is *right, obtuse,* or *acute;* and the Curve is *circular, spiral,* or *serpentine.*

997. Further, Surface is either *plane, angular,* or *curved;* Solids are *plenal, vacual,* or *interstitial;* the Parallelogram, or quadrangle, is *square, rhombic,* or *rhomboidal;* the Triangle is *equilateral, isosceles,* or *scaleneous*—or, with reference to the Angle, is *rectangular, ambiligonal,* or *oxigonal;* and the Sphere is *right, oblate,* or *elongate,* &c.: all of which have their intermedia; and to these many similar examples may be added.

998. Among the primary shapes or figures the *Angle,* which is a natural *mean* between the Right Line and the Curve, holds the *middle* station also among all figures; whence it has great extent of powers and appliances, and has a triple linear relation, as follows:

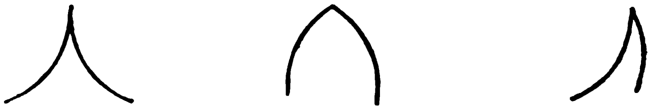
*Fig.* 42.



Right Lined, Curved, and Compound.

999. These, again, have triple distinctions, as above noted, and as Curvilinear they are —

*Fig.* 43.



Concave, Convex, and Concavo-Convex;

all of which have their intermedia and compounds, abounding in the picturesque shapes of nature and art. We might follow these relations into other figures endlessly, for the whole fecundity of forms depends upon a similar triple analogy, whereby the relations of the primary figures extend to all their variations, divisions, and compounds, to infinity, presenting a boundless field for instructive exercise, speculative and practical, in the production, composition, and analysis of figures.

1000. As the *Sphere* is the last in the scale of shapes, forms, or figures, so it is the most perfect and uniform of all, and in this respect it resembles the Point, between which and the Sphere all other figures are included, the latter comprehending between its centre and periphery an infinity of points, radii, and angles.

1001. If, having thus discussed the sensible medium and elementary forms or shapes of Plastics, we now briefly inquire concerning the objects and applications of this science, which involve the *Plastic Arts,* we find the same coincident relations therein; for plastic art is either Constructive or *Architectural,* in material relation, on one extreme,—or it is Graphic or *Pictural,* in intellectual relation, on the other extreme, — or it is Modal or *Sculptural* in medial and sensible relation; and in this respect Sculpture is more principally *plastic* and palpable.

## SECTION III.

1002. In each of these, again, there is evident indication of similar analogy. Thus, in ARCHITECTURE, the first of these plastic arts, there are three principal modes or styles corresponding to, or governed by, the three primary figures or forms of plastic science: first, the familiar, or *Economic Style,* adapted to domestic buildings and structures of vulgar utility, and regulated by the *Line* and *Square.*

1003. Secondly, the Grecian, or *Political Style,* applicable to national offices and buildings of state, and the refinements of constructive taste and beauty, and governed by the *Circle* as its type, of which we might adduce many instances. Thus, in the Propylæa at Athens, the length of its basement is the diameter of a circle, of which the columns are radii, and the three angles of the pediment have a common centre with the diameter of the base; and it merits observation that any structure formed within or upon, and adjusted in its whole and parts according to the divisions, relations, and proportions of the Circle or Sphere, will infallibly prove effectively harmonious as a whole, and well composed and well compacted in its parts: of which the Pantheon at Rome is an admirable example.

1004. And, thirdly, Architecture has the Gothic, or *Religious Style,* of Eastern origin, ruled in like manner plastically by the *Triangle* and Pyramid; which style is, in a variety of respects, appropriate to the sublime and solemn offices of the temples of Divinity. It was the fitness of this style to excite religious sentiment that occasioned Northcote to esteem as very fine the poetical expression of Coleridge, "that an old Gothic cathedral always seemed to him like a petrified religion."*

1005. These three styles branch into others intermediate and compound; into which it will be needless to enter, it being sufficient here that we mark a coincidence of universal analogy in the practice of man, which, notwithstanding, may have arisen from what is called chance — that is, an impulse and influence unseen and unnoticed. Nor is it wonderful that the primaries of all figures should in the progress of human practice have produced their own likenesses in these corresponding styles; nor at all so that human contemplation and contrivance should in their course have so aptly applied them to those analogous departments of *economical*, *political*, and *religious* practice, to which they are so admirably suited.

1006. Neither the anomalies of practice, nor the false taste of imitators who build Gothic dwellings and worship God in barns, — nor even the applications which the Greeks themselves made of their own exquisite models by dedicating palaces to their gods, who were human, and of whom they acknowledged a polity, — can be urged against a distribution which is founded on nature and universal analogy; a distribution which may serve advantageously for classifying works of architecture, if not in correcting and extending our taste by directing attention to the unifying archetypal forms upon which the chaste beauty, simplicity, and harmony of the most generally admired structures depend. In proportion, also, as we acquire rules and principles of our own, we shall be released from the servile necessity of continuing mere imitators of those antients, with the philosophy of whose practice we are little acquainted, and who certainly did not work without principles themselves.

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* Hazlitt's "Conversations of Northcote," p. 94.

1007. Nor do the primary figures less govern the details of Architecture, &c., than the grand structures to which they belong; in which respect we have already noticed the types of floreal forms as found in Geometry, in speaking of the Platonic bodies, which the Greeks had regarded as the forms upon which especially beauty and utility depend:* and to those forms of nature, selected by Grecian taste, we owe the *Acanthus*† and the *Caprifolium*, &c., of Architecture, as we do also to the variation and composition of the primary figures, the angular *Fret*, and curvilinear decorations of their chastely elegant borderings and mouldings.

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* See Plato's "Epinomis."

† In this way the artist must have noticed the *Lapathum*, or the *Digitalis*, at the foot of a tree, supplying, as it were, the face of a plinth or pedestal to a column.

## SECTION IV.

1008. Again, in SCULPTURE and MODELLING, the medial and principal of the plastic arts, we have, first, the Manual or Mechanical branch, on the material extreme, the chief office of which is to supply *Models of Utility* throughout mechanic art; secondly, we have, in the sensible and plastic mean, the Decorative or Ornamental branch to supply *Models of Beauty* to other arts; and, thirdly, on the intellectual extreme, we have Statuary, the highest of the plastic arts, producing *Models of Expression* in animate beings — brutal, human, and Divine — and adding to natural and sensible beauty, grace or moral and intellectual expression and sublimity; and all these are comprised in principle and purpose by outline, contour, or graphic design, and are indefinitely compounded in practice.

## SECTION V.

1009. Finally, PICTURAL, or GRAPHIC DESIGN, the third department of figurate or plastic art, comprehends three branches: first, *Delineation* or *Drawing*, to which belongs the Anatomy of Painting; secondly, *Grouping* or *Composition;* and, thirdly, *Linear Expression*; which three constitute the palpable or mechanical foundation, or plastic of the art of Painting, specifically treated of in works on art: between which, and the preceding branch of plastic art, lies the modern art of *Engraving*, or *Sculptural Painting* in its various species.

1010. It is sufficiently apparent from the foregoing premises that all plastic, constructive, and graphic art, and that of *Drawing* in particular, consists elementarily in the ability to form the three primary lines in their various positions, gradations, and compositions. It is apparent, also, by what nice gradations figures run into each other in an infinite progression; or, in other words, by what geometrical forms the figures of bodies are mellowed or melodized in a regular and coincident scale, like those of the musician and colourist.

1011. Whence the seemingly irregular beauty of forms and figure, especially called picturesque, arises from *circular* flowing into *angular* forms, and thence becoming *linear*, as we see in the exquisite graining of woods and other natural objects; which figures run linearly into each other, as in the outlines and ramifications of trees, foliage, &c.; and spread into superficial and solid forms of like geometrical relations and plastic beauty—gliding and eliding from figure to figure, as seen in marbles, clouds, &c.,—eliciting picturesque beauties infinitely, according to unvarying principles of order and harmony throughout figure, number, and motion.

1012. The same may be instanced not only in the solid substances of nature, but also in the rippling of the brook, the currents and undulations of rivers, the billows and breakers of the torrent and the ocean, and the glorious forms of the sky.

1013. Accordingly, the ingenious theory of Mr. Luke Howard attributes three primary forms to the clouds, the one of which he has called *Stratus*, another *Cirrus*, and the third *Cumulus*—the first being linear, the second angular, and the third globular or circular — whence his compound secondary forms are *Cirro-stratus*, *Cirro-cumulus*, and *Cumulo-stratus ;* and he compounds the three under the denomination of *Cumulo-cirro-stratus*, or *Nimbus:* an arrangement for this branch of meteorological science, wherein natural observation goes sagaciously home to original principle simply, elegantly, and ingeniously.

1014. It appears, also, in a manner perfectly coincident and analogous, how figures oppose and harmonize each other in art with reference to pictural *Composition*, and its various forms, linear, angular, circular, and compound; and why the modern artist has made such eminent use of the primary angular, or pyramidal, or middle form in particular, in the grouping and composition of his *figures*, &c.

1015. The most graceful of the modern masters have employed principally undulating curves in their designs and compositions, or the Hogarthian line of beauty; but the antient Greeks composed variously with the three primary lines together: and to this may be attributed the more energetic, natural, and noble character of their works—and of those of Michael Angelo, also, which were founded upon them.

1016. Upon inspecting the great works of Raphael, it will be seen that he composed principally upon the *curve* and *circle,* of which his "School of Athens," his "Last Supper," and his "Death of Ananias," are instances; and Leonardo da Vinci delighted in *triangular* and *triadic* compositions, as appears in his great work of the "Last Supper." Thus we have evidence of this regimen of forms in three of the greatest masters of the chief modern school of Design. We have spoken principally of historic composition; but the same principles apply to landscape and the other branches of pictural art.*

1017. The *chromatic* axiom, which prescribes in the harmonizing of colours a due exhibition of their three primaries in community, is equally aplicable in *Plastics,* for *there can be no perfect harmony in the composition of figures in which either of the three genera is wanting, and the varieties of harmony in composition and design depend upon the various predominance and subordination of the three.* Hence, of the secondary figures, the *Cylinder* is harmonized and contrasted by the Triangle, &c.; the *Prism* by the Circle, &c.; and the *Cone* by the Parallelogram, &c.: for by these means the three primary figures are variously combined together.

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* See Dagley's "Compendium of the Art of Painting," &c. ed. 2.

1018. Hence the rule that any secondary colour composed of two primaries is harmonized by opposing to it the remaining primary, applies also to forms or figures. It is hence that the parallel forms of an architectural structure, composed of *right lines* and *angles*, give harmony and beauty by opposition to the irregular *curves* and compound or broken forms of a landscape; or that the *circular* temple, or cylindrical columns, contrast the *angular* and *devious* forms of mountain scenery, when such forms are in due subordination; and they become equally destructive of harmony when unduly predominating or transcending, by subduing the unifying forms,—the archeus and key-note of the composition.

1019. Hence also arises, on the other hand, the beauty and harmony which result from trees and animate figures, or a touch of landscape in subordination to an architectural composition: the principle is universal; and, whenever forms compounded principally of two primary figures predominate, the third primary figure introduced in subordination will infallibly contribute to the harmony of the composition.

1020. It is a fallacious and narrow maxim, therefore, which is entertained by some, that geometrical forms or figures are to be totally excluded from pictural design, as inimical to grace and beauty; yet these forms are, like the primary and secondary colours, in themselves, and individually, beautiful; and all the precaution required by the artist who employs them in composition, is, that they be comported with the harmony upon which general beauty, grace, and expression, according to the design depends.

1021. In coincidence herewith, the diatessaron or fourth, which was held to be the foundation of all harmony in the music of antient Greece, consists of the above relation, and is analogically, also, the basis of all chromatic harmony, and appears, according to the same analogy, to be the basis of harmony in the composition of figures; and not so of these alone, since we have abundant evidence thereof in the lowest objects of taste and the senses.

1022. As to the human figure and human countenance, to which natural *composition*, and, in particular, *expression*, pre-eminently belong, and in which these plastic relations are more diversified, compounded, and subtilized, to them our analogy equally applies; and the artist who aims at originality and nature may undoubtedly reap advantage in his studies of the human figure, by looking beyond its anatomy to that upon which its anatomy is framed; or, in other words, to the anatomy of form itself.

1023. For as in drawing a figure he will evince his skill in its anatomy, and exhibit the very bones through the flesh without producing a skeleton; and as, in like manner, he will disclose his knowledge of the figure beneath the drapery that envelopes it, without producing nudity, so it is requisite he should carry his art one step further, and in all his figures, forms, and compositions, to indicate *the ruling primary forms*, through everything, without exposing regular and naked Lines, Angles, and Curves.

1024. Were it possible in all cases to analyze the beautiful and expressive forms by which sense is affected, they would undoubtedly be discovered to arise from some nice combinations and adjustments resolving into the same identical elements. How exquisite and beautiful, for example, is the play of the primary figures in the human countenance! — the *arched or curved* brows, the *circled and globular* eyes, the *angular and pyramidal* nose, the *linear mouth*, and all the graces, forms, and flexures of line and contour by which they insensibly vary and combine in the formation of the most beautiful and expressive of all Heaven's works! But who shall analyze the subtilty of *motion* through which character and expression are depicted by these living forms?

1025. How subtle, also, are the changes and gradations by which these figures exhibit themselves in succession or combination, in subordination or transcendence, in the same individual!

Thus, of man, in infancy the forms are *round;* in manhood, they are *angular;* but in old age, they are wrinkled or *linear.*

1026. We are disposed, therefore, upon the whole, to believe that the analogy of forms herein denoted is allied to that celebrated principle of analogy aided by which the artists of antient Greece are said to have realized abstract and ideal beauty, and to have carried the plastic arts to that sublime perfection of which they have left us so many unrivalled examples; and, further yet, that it belongs to a universal analogy which is at once the principle of diversity upon which all variety depends, and of the unity which constitutes harmony, and is, therefore, the natural foundation of all truth and beauty.

1027. Thus all beauty is relative and dependent on analogy and subordination; and this is manifest, even in accessories, as in *drapery:* for no sooner is this rendered principal, than it becomes graceless and formal, a costume or a fashion: to escape from which it must yield to the *figure* it accompanies or adorns in all its changes, and then it will partake in just subordination the beauties of form, variety, motion, grace, and harmony. It is by studying and copying nature in subjection to her simplest principles and most general rules, that art escapes from commonplace and vulgarity, and becomes original, masterly, and refined.

1028. It is exactly at that position of art where

Sculpture ends that Painting begins; namely, in the production of outline, or drawing and design, which are the alphabet and grammar of the art; and it must be confessed that Drawing, Composition, and figurate Expression, are the mechanical and palpable, or plastic of painting. These, which are first in practice, and of which *art* makes so much display, are latent, and difficultly discoverable in *nature;* while the beauty and expression of colouring and the sublime of chiaroscuro, which are immediate and self-evident in nature, are the ultimate sensible extreme of art in Painting, the last accomplishment of its practice, and the latest understood in its progress. We are, nevertheless, to be understood as alluding to these with reference to sentiment and expression — in a refined, and not in a sensual signification.

1029. Although the arts of Design and Colouring both belong to sense or passive intellect, the first is the immediate work of the *hand,* the latter of the *eye.* If the first is more necessary or difficult, the latter is higher in nature, sense and science, and more effective of feeling or pleasure. Artists and schools of art have foundered upon the former and flourished upon the latter, and have as great need to beware of the seductions of design as of colouring, and to employ it as a basis, a great mean only, and not as the chief accomplishment and final object of the art, the true end of which is to move our sympathies, and excite our antipathies, through the senses pleasurably, for a moral purpose.

1030. The Greeks were wise in these respects, if their records are true; and Reynolds, from choice or expediency, praised the one branch of his art, while he practised the other: for Sir Joshua was a man of cultivated intelligence, and thence was led to a high estimation of the grandeur of design in Painting; but he was more a man of sentiment, which is the proper field of the art, and this determined his practice: thus approving by his understanding on the one hand, but determined in practice by his fine sense and judgment on the other. Nor are these opinions advanced in derogation from the merits of Design, regarded as a prime essential of the art.

1031. As to the morality of the art, it belongs to its subjects in common with Music and Poetry, but in an inferior degree. Nevertheless, if there be anything herein contrary to the ordinary doctrines of art, it is not for the affectation of novelty or singularity, but for the sake of the unity of truth, our bias otherwise in all cases inclining toward opinions which, wanting confirmation or demonstration, have yet the sanction of custom, institution, or authority.

1032. That these arts depend more upon the medial faculties of sense and passion in the artist, than upon either his internal and intellectual, or his external and physical powers, we have some indication from the distinctions which have arisen in the Italian schools, as to the worth and character of the various works produced by the same master, *con Studio,* through the mind; *con Diligenza,* by the hand; and *con Amore,* with sense and impassioned regard: of which the latter have ever the highest excellence and chief esteem.

1033. Hence, also, arises the estimation which the sketches of the artist often obtain with the truly connoissant over his finished works, from possessing more of the *spirit* of the master in all its freshness, than his more *embodied* labours; although they both involve vicious extremes, which true judgment knows how to censure or condemn, and to avoid in practice.

# CHROMATICS:

OR,

THE ANALOGY OF COLOURS, &c.

# CHAPTER III.

## CHROMATICS.

### SECTION I.

1034. THE term CHROMATICS denotes herein the science of the relations of *Light, Shade,* and *Colour,* as the preceding science, Plastics, does the parallel relations of Position, Magnitude, and Figure; and as the following science, Harmonics, does Acuteness, Gravity, and Harmonious sounds, or Sound, Silence, and Note.

1035. As Figure belongs to the sense of feeling or touch immediately, and Note to the sense of sound, so Light, Shade, and Colours belong to the eye, or visual sense; for, notwithstanding figure, number, and motion become objects of vision, they do so only by the agency of *light, shade, and colours, which are the sole immediate and peculiar objects of sight and Chromatic science;* and are sensible representations of material objects to the mind.

1036. Light and Shade are the Agent and Patient, or generating principles, or elements of all visual effects, and are, therefore, correlative, co-essential, and concurrent; accordingly, the light of day, and the sunbeam itself, are compounds of light and shade, nor are *pure* light or *pure* shade in any case objects of vision.

1037. Concurrent light and shade are either *Achromatic*, or colourless, or they are *Chromatic*, or coloured. Light, Shade, and Colours are, also, either *inherent*, as in pigments, &c., or *transient*, as in the sunbeam, rainbow, prismatic spectra, &c. The first arising from reflection, the latter from refraction, &c.

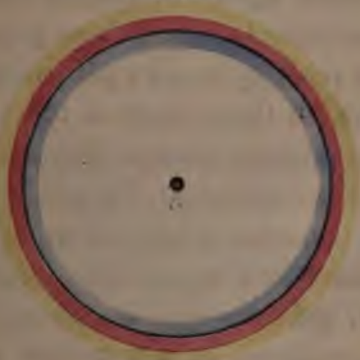
1038. Inherent light and shade are called *white and black*, but in the transient state light and shade are denominated *light and dark*.

1039. It follows from the above that the principles of light and shade have three states or modes of concurrence, which are convertible; one *sensible*, as above; another *latent*, as in colours; and a third *conjunctive*, in which the sensible and latent are united: thus, for example, these principles are coessential, and concurrent latently in the colours of pigments, &c., which also variously participate of these powers sensibly in the variety of their depth and brilliancy.

1040. The principles of light and shade in their sensible state have two extremes and a mean, which, when inherent, are denominated *white*, *black*, and *gray;* and when transient, *light*, *dark*, and *obscure;* the intermedia, or degrees of which, are indefinite or infinite, and are termed *shades*, as those of colours are *hues*.

1041. By the latent concurrence of light and shade, *Colours* are generated or produced; and, as the various states of these principles are relative and convertible, we may deduce our proofs and examples from either. Thus, *a white spot upon a black ground*, or, *vice versâ*, *a black spot upon a white ground*, viewed through a *Lensic prism*,* will be refracted into an aureola of the primary colours, as represented surrounding the spot, thus:

*Fig.* 44.



and in either case the *blue* will lie toward the passive or dark principle, and the *yellow* toward the active or light principle, with *red* between them. Thus Colours, like Figures, are generated in the simplest manner by the extension and expansion of a point in space: to which might be added many other coincidences.

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* For a description of this instrument, and a more extended account of the nature and relations of Colours, &c., see our "Chromatography," chap. iii. and xxvi., and also our "Chromatics" throughout; in which works the science of Chromatics is practically connected with its art.

1042. It is not necessary in this experiment that either of these principles should be in their absolute extreme, as black and white, or light and shade, it being sufficient that they should be relatively light and dark to afford this effect; nor is it necessary that they should not be coloured, since a spot of either of the foregoing colours, or of any hue, shade, or compound thereof, being formed upon a ground lighter or darker than itself, will also yield an aureola of the three primary colours, modified or ruled by its own particular hue.

1043. In all these cases of the production of these three primary colours, they may, by an inversion of the experiment, be re-compounded and reduced to the original spot: thus, by the union of *positive colours* in due subordination, they become neutralized, and the *negative colours*, black, white, and gray, produced by a transition of their principles from latent to sensible concurrence, and *vice versâ*.

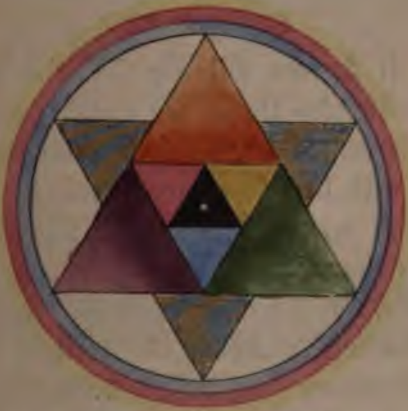
1044. Thus the *primary colours* produced by analysis, or concurring in the synthesis of these principles or fundamentals in union, are *three;* the first and lowest number capable of uniting in variety, harmony, or system, and the variety of their union can be only three.

## SECTION II.

1045. First, from the compounding or union of the primaries *blue* and *red*, proceeds the secondary *purple* on the dark extreme; secondly, from the union of *yellow* and *red*, proceeds *orange* on the light extreme; and, thirdly, from the union of *blue* and *yellow*, proceeds, medially, the secondary *green*.

1046. These correlations of colours, and their elements, may be represented *in system* in the following diagram, which is coincident with that of numbers [554].

*Fig.* 45.



ANALOGOUS SCALE OF COLOURS.

1047. Not only does this diagram agree in form with that of numbers, but it agrees, also, with it numerically, the central black corresponding to the number *one,* or first power, blue to *two,* red to *three,* and yellow to *four;* purple to *five,* green to *six,* and orange to *seven;* and, finally, white corresponding to *zero,* or *infinity.* And as the numbers of the Arithmetical Diagram, taken diametrically from either angle, amount to *ten,* which is the place of the first zero in numeration, so the colours compounded in the same order from the coloured angles of this Chromatic Diagram, amount to the neutral *gray,* the first stage in the infinity of shade, and corresponding to ten; in agreement with which analogy we have been enabled to reduce every tint or hue and shade of colours, however varied and compounded, to numerical computation with precision.*

## SECTION III.

1048. It further follows, that the Secondary Colours, being also three, are capable of the same variety of combinations as their primaries and no more, and with like relations to the fundamentals of all colour; accordingly, from the pairing of the secondary colours, purple and green, proceeds the tertiary *olive,* on the dark extreme; from that of green and orange proceeds the tertiary *citrine,* on the light extreme; and, finally, from the union of purple and orange, proceeds the medial tertiary *russet.*

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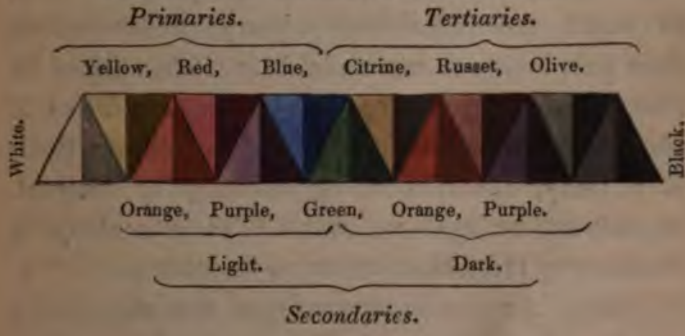
* See Experiments on Colours and the Metrochome in our "Chromatography, or Treatise on the Powers of Colours," &c., p. 248.

1049. Of these tertiaries, blue predominates in, and gives its relations to, the *olive*, yellow to the *citrine*, and red to the *russet*. And as in each of the secondary colours two primaries meet, so in each of the tertiary colours all the three primaries are united. It follows, therefore, that no new distinctions of these elements can proceed from the like combinations of the tertiaries, although they have, in common with primaries and secondaries, innumerable intermediate and compound *hues* and *shades*.

1050. There is also an infinite *series* of hues, shades, and compounds, between the extremes of the chromatic elements, light and shade, or white and black, in the order of the following scale, in which colours are connected in series.

*Fig.* 46.

DEFINITIVE SCALE OF COLOURS.



1051. Such are the distinctions, relations, and gradations of Colours, as determined by the various predominance of their elements through an orderly and infinite procession to their neutral state of shade, where their series terminate, and the equilibrium of these elements is re-established according to a sensible logic coincident with numbers and a naturally perfect system, like the universe.

1052. As the *neutralization*, or negation of colours, depends upon the reunion of the three primaries, it becomes evident that each of the *primary colours* of the above scale and preceding aureola, is neutralized by that *secondary* which is composed of the two other primaries alternately; thus blue is neutralized or extinguished by *orange*, red by *green*, and yellow by *purple:* accordingly, they are so opposed to each other and to the neutral gray in the preceding analogous scale of colours.

1053. For the same reason, each of the *secondary colours* becomes sub-neutralized by that *tertiary*, in which the remaining primary predominates: thus purple is sub-neutralized by *citrine*, green by *russet*, and orange by *olive*. The same follows of the *tertiaries*, and their compounds. Hence there is a unity, accordance, or *harmony of contrast*, opposition, or system, as well as a melody or *harmony of succession*, or series, in colours.

1054. As the compounds of the secondaries are more broken or partially neutralized than those of the primaries, so the compounds of the tertiaries approach yet nearer the negation or neutralization of colour. Perfect neutrality depends, however, upon a due subordination of the primary colours, in which *blue* predominates in proportion to the depth of the compound, and *yellow* is subordinate to *red;* or of the secondaries, in which *purple* predominates, and *orange* is subordinate to *green;* or, finally, of the tertiaries in which *olive* predominates, and *citrine* is subordinate to *russet.*

1055. All the foregoing colours, primary, secondary, &c., have in their reciprocal combinations infinite intermedia or degrees, whence the boundless *variety of hues;* and also infinite intermedia between the extremes of depth and diluteness, whence, also, the boundless *variety of shades.* It is hence that colours partake by analogy of the mensuration of figure in their height or *light,* depth or *shade,* and length, or *gradation* and succession.

1056. Upon the various *gradations of hues and shades* depend the sweetest effects of colours in nature and painting, analogously to the effects of melody or succession in musical sounds; they may, therefore, be termed the *melodies of colour.*

1057. The accordance of two colours in the foregoing instances, whence a third colour arises, coincides with what musicians term *concord,* which is the agreement or coalescence of two sounds, either in consonance or succession, the opposite of which is *discord.* Thus *Harmony,* both with the musician and colourist, signifies the accordance of three or more sounds, or colours, in consonance, opposition, or *contrast.*

1058. The three orders of colours — primary, secondary, and tertiary — are the foundation of *three genera or scales* of colouring, which extend to all the co-relations of colours throughout nature and painting; but as a verbal description thereof, unaccompanied by examples, would be unintelligible to any but an artist, and being more of practical reference than essential to our present design, we refer the reader, who may desire further satisfaction on this head, to our distinct works on colours, wherein we have treated of the particular and general relations or harmonies of colours throughout the several scales, indicated their various archeii or keys, illustrated them by coloured examples, &c., and deduced therefrom the following corollary, equally applicable to Figures, Sounds, and Colours; namely, that *there can be no perfect harmony of colours, either of contrast or gradation, in which either of the three primaries (simple or compound) is wanted, and that the distinctions of keys and harmony depend upon a predominance of one primary or compound, and a subordination of the other two in the composition.*

## SECTION IV.

1059. It may be expedient, nevertheless, in an esthetical outline, that we exhibit the system of harmony and melody in colours, as coincident with that of the ensuing science of Harmonics, from which these terms and relations are borrowed;

and this we have done in figure 47 following, by a parallel of the primary scale or series of colours, with the Diatonic series or scale of modern music, from C on the bass to G above the treble clef, the notes of the latter being opposed to the analogous tints of the former, rising from dark to light, from grave to acute, and the *common chord, or musical C E G,* occurring in each of the three octaves, in contraposition with the *primary triad* of colours— *G to yellow, E to red,* and *C to blue;* the notes B D E of each octave corresponding, in like manner, to *green, purple,* and *orange,* throughout the scale.

1060. In this compound scale the concords and discords of the two systems are singularly coincident,— one of the semitones of the musical octave in the natural major mode falls between the notes B and C, corresponding to blue and green, which colours are powerfully discordant to the artist's eye, and require the intermediate *demitint* opposed to the *semitone,* to satisfy the eye, to connect the octaves in series, and to complete the harmony of the scale; the other semitone falls between the notes E and F, contraposed to red and orange, which the eye requires to be semitonic and subordinate in nature and painting.

1061. In other respects, also, is this correspondence of colours and sounds equally remarkable throughout the scale, and merits the attention of the artist; nor is it without sufficient reason that we affirm there is no pleasing *air,* no enchanting *melody*, in musical composition, that may not be translated with corresponding effect from the ear to the eye in colouring; nor any *harmony or accompaniment* in music that may not be adapted with like power in the harmony, contrast, and chiaroscuro of painting; but as to the propriety of employing such colouring, it must depend upon the subject, for this is to painting, what music is, or ought to be, to poetry; and he who translates from the one language to the other ought to be master of both.

1062. If we imagine the colours of this scale blended, or mutually penetrating each other in an infinite compound gradation from light to shade, and harmonically divided according to the intervals of the Diatonic scale, we shall form a correct idea of the perfect coincidence of the two systems co-illustrated in this diagram.

1063. In such case, there would arise this distinction of the two systems, that the notes of sound are separated by intervals or spaces, while the notes of colour would be the spaces themselves; for colour, as expansible quantity, bears the same relation to *space* that musical sound as quantity, successive or extensible, does to time; but, in the above diagram, the distances on the scale from sound to sound, and those from hue to hue, are equally intervals. Thus, from the particular hue and shade of red to that of orange on the scale, and from E to F, the notes corresponding to these tints, are both intervals, in which a series of intermediate tints and tones exist.

1064. Having illustrated in the above-mentioned figure *the scale of succession or melody in colours,* if now we carry along the line A A of the diagram the course of colours below A, and add, in like manner, the series of colours above B to the other side of the triangle, we obtain the regular series of colours surrounding and forming the triangle A A B, in which we find all the simplest *harmonies of colours,* opposed and contrasted to each other; with other remarkable coincidences.

1065. For, first, each side of this triangle comprehends an octave, containing *the primary triad under a different order or arrangement, and variously melodized;* secondly, this triangle being divided into four other similar triangles or quarters, which are again similarly subdivided, we have in the central quarter *the three primaries coincluding the neutral black in harmony,* as deduced from the original experiment of the spot and aureola, Fig. 44.

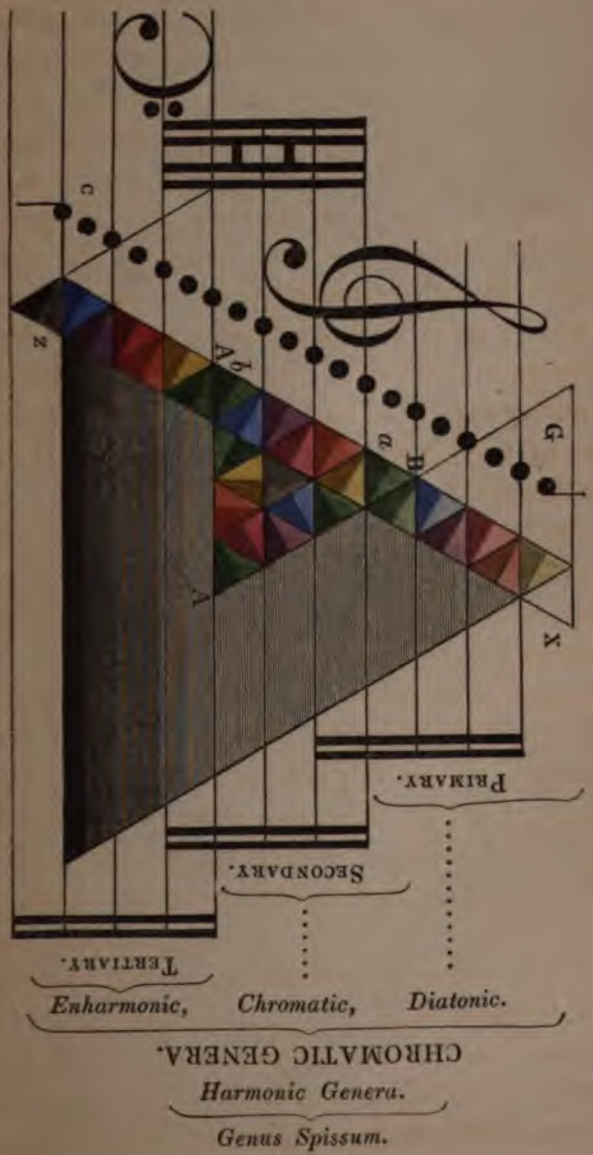
1066. Thirdly, the three extreme quarters, or triangles, coincident with the sides of the central quarter, contain *distinct harmonies of each of the primaries* taken as archeii, or keys; *blue* ruling in the left quarter with purple and green, *red* on the right with orange and purple, and *yellow* at top with green and orange.

1067. Upon the same principle and notation may be depicted the *harmonies and melodies of the secondary colours*, constituting another scale or system of intermediates or half-notes, which antient harmonists, borrowing a term from this science, called a *Chromatic system*,—a term still employed in a similar signification by modern musicians.

1068. In the same manner may be denoted, also, the *harmonies and melodies of the tertiary* colours by other intermediates or quarter-notes, or tones; for so they have been called both by the musician and colourist; and this third scale would be analogous to the antient *Enharmonic system:* in fine, we may thus attain a true regulation of every possible scale and key of colouring.

1069. And, finally, these *three scales or genera*—primary, secondary, and tertiary—may be combined in one series and system in a single scale (just as the antient Greek musicians united their *Diatonic*, *Chromatic*, and *Enharmonic* systems, with which these genera agree, under their *Genus Spissum*); the primary system occupying the upper triangle, G B, on the treble stave; the secondary the central triangle, A A B, on the mean stave; and the tertiary system occupying the lower triangle, A Z, on the bass stave; and the three uniting in one series or scale, descending from white at X to black at Z, as denoted at the end of the diagram. Or the three genera may be blended universally, by a system of quarter, half, or whole tints or tones, throughout a similar and infinite scale.

Fig. 47.



ANALOGOUS SCALE OF SOUNDS AND COLOURS.

## SECTION V.

1070. Upon the whole, it appears that the *Chromatic system, like the Universe, springs from, and resolves into, an absolute unity comprehending a relative infinity*—a perfect system! universally triadic, and affording a remarkable illustration of the universal relations of science.

1071. Hence, the developement of colours from their principles is, as it were, a violence done to this unity; and it is in restoring this unity among colours, under the variety of relations it comprehends, that we produce the various harmonies and accordances.

1072. Thus harmony consists in relation, and springs from the reunion of that which is naturally one, or identical; the feeling or perception of harmony is a perception of relation or reason, a natural logic, a consciousness of truth or *unity;* and the more intimate and comprehensive such unity is, the nearer to perfection is the harmony.

1073. Accordingly, the chaste eye of the painter receives greater satisfaction from the harmony of the tertiaries, in which the three primaries are more intimately combined, and approximate to that absolute or perfect unity from which they proceeded; and, for the same reason, a correct taste demands a subordinated concurrence of the three primaries in every harmony: yet the vulgar, or uncultivated eye, delights more in the unbroken combinations of the primaries, and is rarely offended at their disunion, disproportion, or discordance.

1074. Thus that which is most harmonious or beautiful to the merely sensible or uncultivated eye, is least so to the cultivated or intellectualized eye: to the first the most simple and distinct relations are suited, to the latter the more comprehensive and refined. There is a bound, however, to this refinement, in which the relations of the primaries, as principles, become so remote or complex, that indistinguishableness ensues, and this bound is sameness, or *monotony*.

1075. To what extent the power of vision may reach in this respect, or how far Nature goes, may be difficult to determine; but it is evident in her works that she delights most in the latter harmonies, and distributes the former with a sparing hand. Consonant, also, to this, has been the practice of the best colourists in steering clear from the extremes of crudeness and monotony; accordingly, in nature and the best pictures, the broad harmony of landscape, &c., lie in the latter relations, while the more confined harmonies of flowers, &c., belong to the former.

1076. By thus refining upon the simple unity or accordance of the primary triad, we have arrived at the three genera of harmony in colours; and it is remarkable that the musical genera of the Greeks were three, distinguished, also, by a similar characteristic of refinement, and requiring a like cultivation of perception. There is, indeed, as we have seen, a boundless analogy by which the sciences and arts are connected, whence they mutually reflect light upon each other; and the relation in this respect is so intimate among the sensible arts, that it would alone lead us to suspect in them a natural identity of form.

1077. In no instance is this more evident than in what we have pointed out of the corresponding relations of the primary colours, and the three notes, C E G, which constitute the common chord in music; and as it is by the inversion of this common chord that the musician obtains the other two perfect consonances, E G C and G C E, so, by a similar transposition, we get in the three sides of the coloured triangle in the above diagram three perfect consonances of colours.

1078. Musicians, it is true, denominate the two inversions imperfect concords, not as dissatisfying the ear, but as unfit to commence or terminate a composition; in which respect colours also resemble sounds, since the inversions of the primary triad, though perfect in *consonance* or system, are imperfect in series.

1079. Every simple interval in music, which the Greeks called a *Diastem*, or an interval of two sounds, to distinguish it from a *System* or compound interval, is a discord; but some compound intervals are concords, and some are discords, while *unisons* are held to be concordant: all of which holds correspondingly in Chromatics, wherein simple intervals are discords, although they may be tolerated by a sort of appogiatura, blending or breaking into intermediate hues or shades. Compound intervals are concordant or discordant, and unisons and octaves, joining depth with brilliancy, or chiaroscuro, in the same tone, are harmonious or concordant in Chromatics.

1080. Again: the chromatist has not only his *melody* and *harmony*, but he has also, if the variety of expanded quantities may be so expressed, his breves and minims, quavers and semiquavers, &c., or *rhythmus*. And these relations of colours answer to that which in their music the antients called *harmonica* and *rhythmica* theoretically, or *melopœia* and *rhythmopœia* practically.

1081. Nor are these coincidences, nor in particular those which refer to the music of antient Greece, undeserving of the notice of the learned musician, as a clue, perhaps, to the restoration of the lost genera. We therefore recommend them to his attention, it being beside our design to speculate concerning the lost arts of antiquity; suffice it, that the examples we possess of Grecian arts justify our belief of the excellence of performances which are known to us only by their reputation: nor ought we to lose sight of the remarkable tradition, that it was by the *principle of analogy* (whatever they meant by it, or wherever they got it,) that the Greeks carried the arts to the very acme of perfection.

1082. To these coincidences of Chromatics and Harmonics many others might be added, but the uniformity of their structure has been rendered sufficiently apparent; yet, if there be any perplexity or obscurity therein, it arises chiefly from the necessity of employing those terms in common which belong properly to these sciences as distinct, but which a little discrimination of the reader will make clear. We may, therefore, conclude; remarking, only, that it is evident *colours* have a science as distinct from any necessary association with that of *figures or plastic forms,* as that of *musical sounds* is from *figurative language or the images of poetry,* notwithstanding they are similarly connected. Hence, the field in which the chromatist may exercise his genius is as extensive as that of the musician, much of whose science we have already anticipated, and to which science we proceed.

# HARMONICS:

OR,

# THE ANALOGY OF MUSICAL SOUNDS.

## CHAPTER IV.

### HARMONICS.

1083. By the term Harmonics, we here denote the science of the relations of *sound, silence,* and *note,* which science is otherwise called Music, Acoustics, or Phonics, the third and last of the purely Esthetical Sciences, and dependent upon the sense of hearing, as the sister-science of Chromatics is upon vision, and that of Plastics upon touch.

1084. The principles of *sound* and *silence* are in Harmonics, or acoustic science, what those of light and shade are in Chromatics, and also what position and magnitude are in Plastics,—they are the agent and patient, or cause, of all the effects and phenomena of hearing: from the coaction or concurrence of which principles arise all the variety of *note* and sound.

1085. *Sound and silence,* and also their parallel relations, the *acute and grave,* or the *treble and bass,* are correlative extremes in music, as light and shade are in colours, and position and magnitude are in figures; so that, in fact, as declining light is an approach towards darkness, so is the declension of sound, to the grave and bass, an approach toward silence, or the absence or negation of musical sound or *note*. In Harmonics, therefore, we may either deduce the treble, &c., from the bass, or the bass from the treble, indifferently.

1086. As the generator of figure and colour is in each a punctum, or point, so is that of note, or tone, *a pulse or point of sound;* and every pulsation of sound, like the plastic and chromatic points, generates and resolves into *three* others, bearing the relations of the *common chord, or chord major* of the musician, by the various combinations of which every musical interval may be determined.

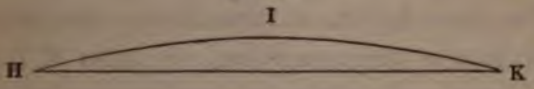
1087. This triunity of sound has been demonstrated in a variety of ways, to the satisfaction of the cultivated ear of the musician, by Mersennus, Wallis, Rammau, Tartini, and others; and it follows that these *three tones of every tone* are resolvable into other like tones, even to the extremest limits of sensation indefinitely, and in a manner perfectly analogous to the like analysis of colours, by which every hue and shade resolves into like triads of primaries to infinity, — every one three, and every three one, in indivisible triunity to infinity, or bounded only by sense.

1088. The first of these facts is shewn in the well-known experiments of the monochord, trumpet-marine, &c.; and of the other we have instances in the succession of chords observed issuing from certain sounds generated beneath domes, arches, or in caverns, and in the sympathetic sounds and cadences of the Æolian lyre, &c.

1089. The mechanical theory of the sounds of a musical string, or monochord, &c., explains them by the variety of their vibrations or pulsations, and by shewing that different vibrations, which may be sustained separately, may be also sustained simultaneously; and thus accounts mathematically, or through measure, for the variety of the harmonic notes which accompany, or, as we say, constitute, every musical sound, though more apparent to sense in the low or bass, than in the high or treble, tones of instruments.

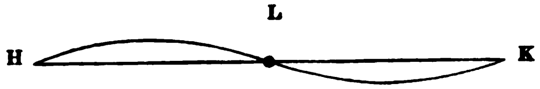
1090. The simplest of such vibrations takes place when the string, H K of the following figure, assumes the regular harmonic curve, H I K, and pulsates or sounds the full or fundamental note of the string.

*Fig.* 48.



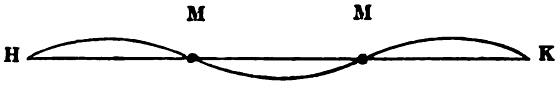
1091. Next in simplicity is that in which a double vibration in opposite directions takes place, dividing the string at the half of its length L, which point, called the Node, is quiescent, and the sound of the string in such case is *the octave* to its fundamental. *E. g.*

*Fig.* 49.



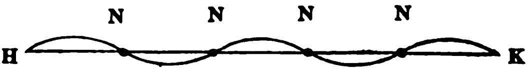
1092. The next mode is that in which a string vibrates triply in equal parts simultaneously, having two nodes, M M, and the sound of the string in this case is *the fifth* to the fundamental. *E. g.*

*Fig.* 50.



1093. In like manner, a string vibrating in five equal parts has four nodes, N N N N, and yields the sound of *the third* to its fundamental, *e. g.* &c.

*Fig.* 51.



And the three latter, or three former sounds, each constitute the *common chord,* or notes C E G of the Diatonic scale, being *the primary triad of the musician.*

1094. Every perfect sound, note, or tone, is a system of these three primaries, the *third,* the *fifth,* and the *octave* to the fundamental, in the manner of colours; and as the secondary colours are mediates or compounds of the primaries, so are the other notes of the musical octave mediates or concurrents of the common chord or primary triad of the musician, as illustrated in the above experiment, and the preceding analogous scale of sounds and colours; ascending and descending within limits which are determined only to observation by the perceptive powers of the two senses of vision and hearing. The same may be asserted of all other possible scales and modes of harmonic science.

1095. In such manner is produced and constituted, by derivation or composition, all that infinite variety of sounds which nature and art present to the ear, whether in the melodies and harmonies of natural and artificial music—the numbers, rhythms, and cadences of poetry—the articulations of languages—the cries of animals—in noises or slurred sounds, as distinguished from notes or musical intervals, or in other broken sounds, however produced; equally also in the hum of an insect and the thunder of the storm, and all various as the hues and shades which distinguish visual objects. So much for sound in general, whether it be harmonious, significant, or promiscuous.

1096. Notes or sounds, like colours, have by analogy the three dimensions of figures, *length*, *height*, and *depth*. The measure of length in musical sounds is *time*, height is *acuteness*, and depth is *gravity;* to the two last of which belong tone and tune.

1097. The ratio of division in both time and tone is also geometrical, the length of notes being as 1, 2, 4, 8, &c., or, conversely, 1, ½, ¼, ⅛, &c. And, as intervals of height or depth, they are whole, half, or quarter tones: to express which relations of sound, the musician employs his peculiar well-known characters and notation, wherein there is much indication of triple relation.

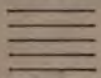
1098. In regard to the *length of musical sounds,* simple sounds are significantly denoted by a *point,* thus, •, which is called a crotchet, to which a tail is generally appended downward or upward, thus, ♩. If the note be longer than a crotchet it is called a minim, and marked thus, 𝅗𝅥, and is equivalent to *two* crotchets. If it be still longer, it is called a semibreve; is equal to *four* crotchets, and is marked thus, 𝅝, advancing in duplicate ratio.

1099. On the other hand, if the note be shorter than a crotchet, it is distinguished by a hook, thus, ♪ and called a quaver, and is equal to ½ of a crotchet; if it be still shorter, it is double-hooked, thus, 𝅘𝅥𝅯, and is called a semiquaver, equal to ¼ of a crotchet; and if a note be yet shorter, it is called a demisemiquaver, is treble hooked, thus, 𝅘𝅥𝅰, and is equal to $\frac{1}{8}$ of a crotchet: the whole being in subduplicate ratio.

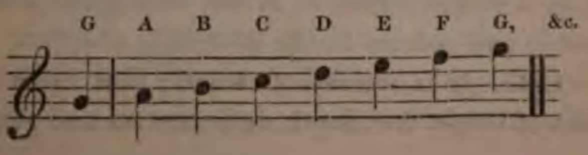
1100. *Silence*, or pause, is measured, in like manner, by equivalent *rests* of the same denomination, thus distinguished as longer or shorter than the crotchet: 𝄻 Semibreve, 𝄼 Minim, 𝄽 Crotchet; 𝄾 Quaver, 𝄿 Semiquaver, 𝅀 Demisemiquaver, &c.

1101. Besides time, as belonging to note and rest, there is compound time, or motion, as applied to musical composition, denoted by the terms *Adagio*, *Largo*, and *Allegro*, which are equally referred to common and triple time.

1102. *Height and depth of musical sounds*, or acuteness and gravity of note or tone, are denoted by the place or position of their characters as high or low, with respect to certain parallel lines called a *Stave*, formed thus:

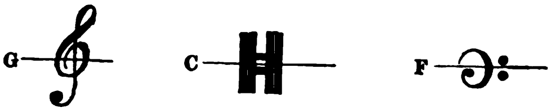


And all the variety of note or tone, as determined by nature, and derived from the primary musical triad, is comprehended in the diatonic octave, named after the first letters of the alphabet, A B C D E F G, and are characterized and posited upon the stave in the scale or gamut of the musician thus:



1103. As this scale, or series of note succeeding note, may be continued upward or downward simply by the repetition of the same relations of sound, musicians have extended this scale by *octave above octave*, and stave above stave, distinguishing their position, or relation of acuteness and gravity, by characters called Claves, Clefs, or Clifs, formed as follow:

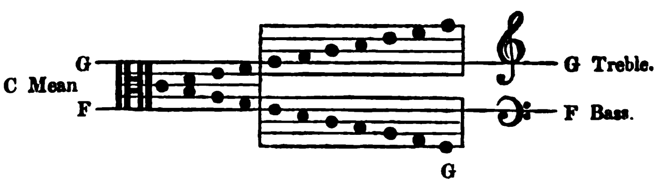
*Fig.* 52.



the first of which is called the *G or treble clef*, or *soprano;* the second, the *C tenor*, or *mean;* and the last the *F, or bass clef.*

1104. The relations of these in the principal scale of the musician may be represented in the following figure, as ascending and descending from the mean:

*Fig.* 53.



or in a single series, as in the analogical scale of sounds and colours in the preceding chapter.

1105. It is worthy of remark, that these relations of height and depth, or acuteness and gravity, as *bass*, *mean*, and *treble*, are natural distinctions of the vocal powers of the human species, as *masculine*, *puerine*, and *feminine;* so that harmony, or accompaniment, is an institution of nature as evidently as melody is also.

**1106.** After what we have thus briefly stated respecting musical sounds, their relations, and the characters by which they are marked and distinguished, it will not be difficult to comprehend the rationale of practice, or the manner in which notes are employed in the *composition* or production of Melody or Air, Harmony or Consonance, and how they run into each other, or combine, symphoniously.

**1107.** *Melody* is the sweet fluence of sounds, and arises from the orderly arrangement of notes in succession, ascending or descending continuously, or with variety of interval, of time and tune —slowly or swiftly, loudly or silently, softly or harshly, smoothly or abruptly, harmoniously or discordantly; and variously adapted and contrasted, according to the diversity of composition and expression of which sound is susceptible, and by which it should emove the mind through pleasurable sense, and lend its aid to the sentiments of Poetry.

**1108.** This it is enabled to accomplish through those affinities of sound already described as arising from the common chord or consonance which belongs to the natural constitution of all sound, whence the variety of their unity, and the disunity, dissonance or discord, which have been commonly explained physically and mathematically, but of which we here seek the sensible relations and philosophical analogy.

1109. According to which *there is no perfect harmony, or consonance of sounds, in which either of the three elements of this common chord, or musical triad, answering to the notes C E G of the preceding scales, is wanting, either simply or in relation; and the variety of harmony or consonance depends upon a predominance, or dominance, of one of these, and a subordination, or subdominance, of the other two, in the composition.* The like principle prevails in the harmonizing of colours, in figures, and, as we have shewn, throughout all sensible science; and, as we might also shew, throughout all science.

1110. It results, from this axiom, that every successive transposition of these notes is distinctly melodious, — that concord is a sense of unity and sufficiency, and discord a sense of divarication and deficiency. Thus each pair, or interchange of sounds of the common chord, or *primary triad,* unites in producing a third sound, and is a distinct concord, whence a *secondary triad;* but each note of the common chord, with any other note out of the chord, is more or less discordant or imperfect.

1111. It follows, that the whole scale is made up of alternate concords and discords; that some concords are perfect, such as *thirds* and *fifths,* to any fundamental; that *octaves* and *unisons* are concords, and that octaves differ from unisons only in acuteness or gravity; that *fourths* (or the *diatessaron*, upon which the Greek musicians founded all harmony,) are sometimes imperfectly, but in general perfectly concordant in union, and brilliant contrasts in opposition; that *sixths* are as often discords as concords, and that *seconds* and *sevenths* are always discords.

1112. It follows further, therefore, that half and quarter notes, whether flat or sharp, or what belongs to modern chromatic, serve to augment these harmonies and discords for the sake of expression, and variation of key,—or the ruling, predominating, or fundamental note; that every simple discord may be resolved by the introduction of a third note or notes, and that the modulation from key to key depends upon the same principle: all of which relations, accordances, and discordances of musical sounds we have represented, according to a natural and real analogy, to the sense of vision, in the preceding analogous scale of colours and sounds.

1113. Again: *Harmony* in music is the confluence of sweet sounds; and, as distinguished from Melody, arises from the accordances of simultaneous sounds: it depends, nevertheless, upon the same principles of accordance and relation as melody does. But, beside this relation of counterpoint with succession or melody, harmony belongs to, and flows with, the melody it accompanies, has the same theme or subject, and should be itself a subordinate melody, or melodious.

1114. Harmony, or music in parts, is, therefore, a *compound melody,* and may consist of many parts, or harmonized melodies compounded, subordinated, and having the same theme, or concurring to the same effect or sentiment, being most perfect when each part is melodious, and subordinated harmoniously in reference to two extremes and a mean.

1115. And, although harmony may be extended to any number of parts, it is, both naturally and generally, bounded in practice by the triple scale of the treble, mean, and bass, and is, therefore, perhaps most perfect and effective in three parts; and within this bound, also, nature has in general confined both the pleasure and the power of the voice and ear.

1116. From what has been said, it appears that *harmony* and *melody* depend upon the same principles and relations, and have the same end; and the confusion which has arisen in the common and technical acceptation of these terms among musicians and writers on harmonics, seems to have sprung from the intimacy and variety of their reciprocal relations, through which harmony becomes melodious, and melody harmonious.

1117. Hitherto, we have adverted only to the modern diatonic scale of music, in coincidence with its parallel scale of colours in the preceding outline, wherein we have also adduced two other scales, the *secondary* and *tertiary*, of similar relations to the first, and differing therefrom only in die or diesis, or the division and subdivision, or breakings of the original hues or tones; just as two similar musical scales would do in which the one should be founded on *half notes, tones* or *mediates*, and the other on *quarter tones, dies, divisions*, or *dieses*.

1118. These have occasional place in modern music, but they have no distinct regimen or system, independent of the diatonic series or scale, as they had among the Greeks, from whose diatonic genus, although it differs in many respects, the modern scale was probably taken by Guido Aretine, the father of modern music; and in much the same manner, it is probable, the analogous colouring of the Venetian painters was derived, about the same time, from the same source.

1119. Confused and obscure as are the various accounts delivered of musical science as it existed among the antient Greeks, the following may be clearly collected:—that they regarded *tones* according to a scale ascending or descending, as *high, low*, or *intermediate*,—treble, bass, or mean,—and similarly according to *time* or rhythmus, as *long* and *short;* and, finally, they distinguished them as vocal and instrumental, or *continuous* and *discrete:* the first of these, as connecting and blending, infinitely divisible as the colours of the rainbow; the latter as divided by intervals diatonically, &c.

1120. It appears, also, that three scales or genera, already adverted to, were recognized by the Greek musician—the *diatonic*, the *chromatic*, and the *enharmonic;* and that, in regard thereto, the note or tone was supposed to be divided into twelve least parts, of which a hemitone contained $\frac{1}{2}$, or six; a diesis trientalis, $\frac{1}{3}$, or four; and a diesis quadrentalis, $\frac{1}{4}$, or three.

1121. We learn, further, that the diatonic genus, founded on the natural chord, major, had *two colours* (for so they were called), to which belonged the diesis of six, or the hemitone; that the chromatic genus had *three colours,* to which belonged the diesis trientalis of four duodecimal parts of a tone; and that the enharmonic genus had but *one colour*, to which belonged the diesis quadrantalis of three duodecimal parts of a tone.

1122. The diatonic is called *the scale of nature;* yet are the shorter intervals of the enharmonic and chromatic genera equally natural, or even more so, as is evident in the warbling of birds, &c., the intervals and scale of which are even more confined and compounded. And it is probable the first music was of these latter kinds irregularly, and that the diatonic was more especially the result of *art*, science, and signification; upon which, again, by an after-refinement and return to nature, the chromatic and enharmonic genera were re-established, improved, and regulated: even, also, as it has been in the natural and artificial scales in the progress of the colourist.

1123. In connexion with their genera, the Greeks had also antiently *three modes* or species of octave, called the *Dorian*, the *Phrygian*, and the *Lydian*, which exceeded each other from grave to acute by the interval of a whole tone, and varied in effect from the solemn and grave to the light and gay.

1124. The whole science was divided, by most of the antient Greek writers on music, into *Harmonica*, *Rhythmica*, and *Metrica;* whence their three faculties denominated *melopœia*, *rhythmopœia*, and *poesis:* the first of both referring to harmonious sound, the second to tune, and the third to measure and quantity. It would be difficult, nevertheless, to determine the bounds ascribed to this science by the antients, who subjected to it the whole domain of the *Muses*, and thence it obtained the appellation of *Music*.

1125. Many other coincidences might be adduced from the musical science and practice of the Greeks, were it expedient; but, whatever this science may have been in antient times, there is as great disagreement in the accounts handed down to us, as there is confusion in the modern theories to which they have conducted: so that, at the present day, it can harldy be affirmed that music has any well-established system of science founded on its true relations, but rather an arbitrary and conventional regulation.

1126. With respect to what is commonly regarded as elementary and essential to the science of Music, — its notation, characters, signatures, terms, &c. — they also are arbitrary, and of no very important consideration here, but belong to the *grammar* of every instrument, and are taught as the practical elements of music in books of instrumental instruction. These constitute the peculiar language of the musician — the technicals with which the reader must be supposed to be acquainted: we have, therefore, noticed them no further than they are necessary to our context, or as incidental to the subject.

1127. As Plastics comprehend *form, composition,* and *expression,* so have Chromatics *colour, colouring,* and *expression,* and to Harmonics belong *note, composition,* and *expression;* nevertheless, it is not expedient that we should exhibit here the conventional rules of composition, counterpoint, and modulation, or the arts of melodizing and harmonizing in modern music, although these also afford many instances of our analogy; much less is it necessary that we should treat of the false taste which prevails in *musical expression,* which, in ministering to the merely sensual ear, degrades Poetry to the servitude of sound, instead of associating rapturous sense with soul-inspired sentiment and intelligence. We have spoken elsewhere of the dependence of lingual and poetic harmony upon this science.

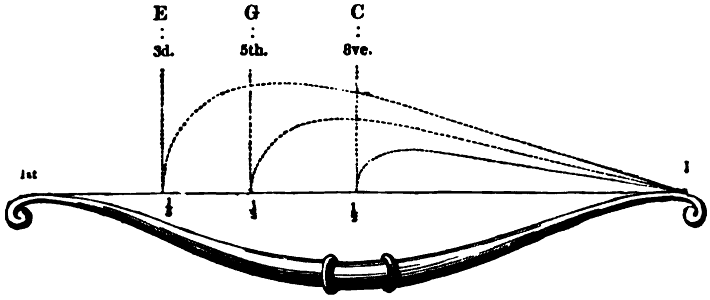
1128. It may, however, serve the purpose of illustration, if we subjoin some inquiry into the probable origin and progress of harmonic instruments in connexion with the simple elements of the science. It is probable, then, that the first stringed instrument was the *bow* of the archer, which is, in fact, a *monochord;* and, as the early paintings were *monochromes,* so the first martial music was probably the twang of bowstrings in triumph for victory, or on return from the chase.

1129. Under such circumstances, ears of nice natural sensibility would soon discover the various relations of the simple musical triad or common chord, either in the sound of several of these instruments differing in size, or varying in tension. So, by stopping the string upon a single bow, used as a finger-board, these, and other relations of the octave, would be found as they are on a monochord.

1130. So agreeable is this conjecture to both classical records and common conception, that the discovery of musical notes has been ascribed by some antient authors to Apollo, when playing with the bow of his sister, Diana; and by others attributed to Marsyas and Olympus, whoever they were; and the term φθογγος, denoting a voice or musical note, resembles in sound, almost as expressively as our English word does, the *twang* of a bowstring, which the Greeks denominated ψαλμος; whence *psalm*. To the above tradition may also be added the invention of the *lyre* by Apollo,—by some attributed to Hermes, and by Plato to Amphyon; each, probably, designating the same personage.

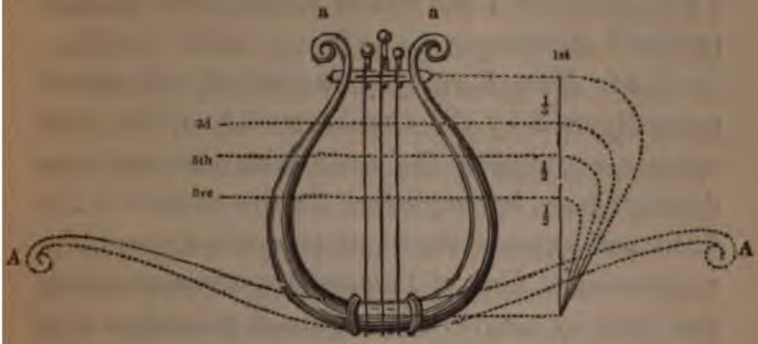
1131. In a manner equally natural as the above would the *bow* be converted to a string-trumpet, or *trumpet-marine*, by the action of another bow across its string, performed by one hand, while the other hand duly touched the string at the places of the harmonic notes before discussed, and as instanced in the following figure; whence may be traced every variety of the Viol, or *bowed* instrument.

*Fig*. 54.



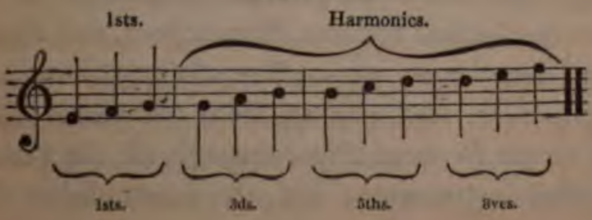
1132. This instrument of war and the chase, thus naturally turned to the purposes of peace and festivity, would, by the easy process of bending the bow from A A to a a in the next figure, transide into the simple form of the antient *Lyre*.

*Fig. 55.*



1133. The most antient *Lyre* had, we are told, only *three strings*, tuned, perhaps, by thirds, to the simple and sweet harmony of the common chord, in the manner of the old British Lute and English Guitar. But, supposing them tuned to three consecutive notes, or by seconds of the natural scale, then, being gently touched across the strings by one hand at the distances of $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{5}$, from the nut or bridge, while they are struck with the fingers of the other hand so as to produce the harmonic notes of 3rd., 5th., and 8ve., to the three notes of the open strings, the entire series of the scale will be obtained, thus:

*Fig. 56.*



In these instances, $\frac{4}{5}$ of the strings give the *thirds*, $\frac{2}{3}$ the *fifths*, and $\frac{1}{2}$ the *octaves* to the fundamentals, or whole strings.

1134. The *Lyre of four strings*, afterwards generally used by the Greeks, would in the same manner accomplish the scale with one only redundant note, by employing the harmonics of the fifths and octaves alone, as is evident; and the *seven-stringed Lyre* of Terpander would accomplish the same by octaves only, without redundance or deficiency, while it doubled the extent of the instrument, and in this view carried it to perfection.

1135. If these conjectures are as true as they appear probable, the compass of the antient Lyre was not so confined as has been supposed; and if the above were the practice of the Greek musicians, there must have arisen thence a sweet coalescence of sounds, which, when combined with equally fine modulation and Poetry, must have produced harmony of celestial mould and pathopœia.

1136. It would be almost an offence to common conception to trace hence all the variety of the Harp, Lute, and other plectral instruments, to the more mechanical Spinnet, Harpsichord, and Pianoforte; but, by an easy effort of imagination, we may pass, in like manner, from the *Oaten Reed* and simple *Pastoral Pipe*, through all the variety of wind instruments: for art accomplishes her ends as nature does, by slow and imperceptible degrees.

1137. The note of the simple pipe is varied according to its length, and by stoppages; and the first step in the music of the pipe would naturally be ringing the changes on a series of pipes by an equal number of performers; which could hardly fail to suggest the improvement of combining them in the *Mouth-organ, Pan's Pipes,* or *Masrakitha;* from which, advancing, would gradually arise the more *complex wind instruments,* ending in the production of that which is, by way of pre-eminence, called the *Organ.*

1138. By the easy device of notching the pipe so as to produce ventages to be stopped by the fingers, a single pipe was made to supply the place and power of many, which with the variation of the mouth-piece would, by a like natural progress of art, conduct to every other variety of wind instruments. Now, there are no other musical instruments than the stricken, the bowed, or the blown, or, technically, the *Plectric, Violic,* and *Æolic,* their variations or compounds; and of each of these we have indicated the probable origin in illustration of the fundamental relations of harmonic science.

1139. Having thus briefly discussed the doctrine of elementary musical sounds, and the chief instruments by which they are produced, we need not enter here into any inquiry concerning *sounds in-*

*harmonious* or accidental, which are merely natural notices of objects to the ear, subject, nevertheless, to the same natural laws and relations as musical sounds; and of artificial *sounds significant,* as related to the present science, we have already spoken. We proceed, therefore, to a further brief review of the *Appetitive Senses,* and, finally, of the *Passions,* which belong in the highest respect to sense, and through which it is the chief office and purpose of musical sounds to emove the mind morally.

> " Nor wanting pow'r to mitigate and 'suage
> With solemn touches troubled thoughts, and chase
> Anguish, and doubt, and fear, sorrow and pain,
> From mortal or immortal minds."
>
> *Paradise Lost,* l. 557.

## CHAPTER V.

### OF THE APPETITIVE SENSES.

1140. Having in the preceding chapters delivered brief and distinct outlines of the three sciences which comprehend the relations of *Sense,* as distinguished from *Appetite* and *Passion,* of which there have hitherto been no accredited sciences, it remains only that we further adduce the esthetical relations of the Appetitive Senses and of the Passions, as referred to at the commencement of the present outline.

1141. Sense, as appetitive, belongs principally to *touch, taste,* and *smell;* each of which is referable to the palpable sense of feeling, and to material nature, as severally affected by *solids, liquids,* and *elastics.*

1142. We have already indicated the science of touch esthetically, under Plastics, which regard the forms or shapes of things, and not their matter, which is the object of appetite, and regarded thereby only as pleasing or disgusting to touch, as hard or soft, wet or dry, hot or cold, chemically; or as full or empty, light or heavy, in motion or at rest, mechanically: and as we have treated of the esthetical relations of touch under their proper science in the present outline, its chemical and mechanical relations may be referred to their sciences also.

1143. In passing here from the more dignified objects of taste and the senses, which belong to plastic, chromatic, and harmonic science, to such as are more of appetitive and physical than of sensitive and esthetical nature, and, still less, of moral and intellectual reference, we shall find even these not without traces of universal analogy; as may be remarked in *Odours* and *Sapors*, the objects of taste aud smell, which are allied to the sense of touch, and are so intimately related in office and object, as to be indifferently denoted by the terms *savour* and *flavour*.

1144. Thus of SAPORS, or tastes, the *Sweet, Acid,* and *Bitter,* are the primary and best distinguished, and, together with the *Sapid* and *Insipid,* are to the sense of taste what the primary triad of colours with light and shade are to sight; in which, also, they coincide with the primaries of figure and sound.

1145. As the primaries of colour, &c., combine and constitute secondaries, so, by the union of *sweet* and *acid,* a new and agreeable *secondary* or oxymelious *flavour* is elicited, differing from its primaries, as orange colour differs from red and yellow, of which it is composed,—or as green differs from its components, blue and yellow.

**1146.** The same analogy prevails in the production of the other secondary flavours: thus salt [culinary salt, muriate of soda, or chloride of sodium] and *saline* taste, are a compound of an intense *acid* [the muriatic or chloric], and a nauseous *bitter* [soda, &c.]; and so of other salts and salines, and also of *bitter-sweet* compounds. It may naturally be inferred, hence, that the whole multitude of tertiary and compound sapors may be produced and regulated by the more or less simple or complex concurrence of these primaries, according to the foregoing analogy and coincidences of colours, figures, and sounds.

**1147.** In the same manner, the primary ODOURS assimilate to those of sapor, in the *Roseate* or sweet scent, the *Lemonine* or acid scent, and the *Amygdaline* or bitter scent; and so on to their secondaries and compounds. Ill-suited scents and ill-accorded flavours may be regarded as coincident with discords in music; and *Pungent* and *Faint*, or active and passive odours, as similar to the acute and grave of sounds, or light and shade in colours, &c.

**1148.** These coincidences in the relations of the lower senses, together with the uniform analogy of the foregoing sciences, conduct us naturally to the same regulation, or the same natural and scientific laws: a knowledge of which, in reference even to odours and sapors, might not prove totally useless or inapplicable.

1149. Upon such laws depend the uninvented arts of compounding agreeable tastes and scents above alluded to, by which new and delicious odours and flavours may be obtained,—the powers of contrast by which they may be heightened and harmonized, or such as are disgusting to sense neutralized and resolved: of which many examples might be adduced, if we were intent to expatiate on a subject little connected with the chief objects of science, although there is nothing throughout the whole field of intelligence that has not its degree of importance and utility; and, by means of the arts here alluded to, the empirical practices of the apothecary, perfumer, vintner, and cook, may be simplified and rendered scientific.

1150. As the most beautiful and agreeable combinations and developements of colours occur naturally in *flowers*, so, to unvitiated taste, the most delicious native flavours are produced in *fruits;* and as there is a confluence of corresponding flavours and colours in fruits, so it is probable there exists a like confluence of colours and odours in flowers. We find, accordingly, that fruits in general become, in their progress to maturity and decay, first pale and *acid*, then *sweet* and rosy, and, finally, dark-coloured and *bitter*.

1151. And, further, that the mellifluous variety of secondary and intermediate flavours dependent upon these primaries, are successively unfolded in their progress; during which they also exhibit an orderly and melodious succession of colours from the *green* state, through *yellow* and *orange* to *red*, when at full maturity they fall into perfect harmony and contrast, as before they were in unison, with *green*.

1152. In some cases the whole of these occur together in maturity, harmoniously subordinated and diversified: we may hence be justified in ascribing the same rule and maxim of harmony to these lower senses, which are found to belong to those of colour, figure, and sound.

1153. The above order in the succession of flavours in fruits prevails so generally, that it is unnecessary to adduce instances thereof; but, of the less evident association of flavours and colours, the *orange fruit*, which gives its name to the secondary colour composed of red and yellow, is of the secondary sapor, or *Oxymel*, composed of *sweet* and *acid*, of a colour composed of *red* and *yellow*, and is in general more or less red or yellow in colour as it happens to be more or less sweet or acid in flavour.

1154. Then, again, the true harmonizing contrast of the oxymel, or secondary flavour of this fruit is, according to our rule of harmony, *bitter*, and bitter is the flavour of the pip or kernel; as it is, also, in most other fruits, of which also the flesh or pulp is in general *sweet*, and the skin *acid*: while bitter enters subordinately into the flavour of most fruits, and each taste in its turn becomes the archeus or ruling flavour, while in some fruits the three flavours of sweet, acid, and bitter are distinguishable, harmoniously united:—how beautifully, for instance, are they blended in the cherry!

1155. These relations of savours are equally evident and available in art, of which wines and other bibatory liquors afford the best examples, being classed or distinguished as sweet, acid, or bitter; and these variously compounded and subordinated in the endless variety of wines, beers, and liquors, &c.; of which, nevertheless, sweetness is the natural archæus, or ruling flavour.

1156. It is from an harmonic principle, in connexion with cultivated perception in the gross sense of the palate, that the connoisseur of the bottle prefers olives to sweet confects with his wine: the latter being so near together in the scale of flavours as to become discordant, and not near enough for unison, so to speak. The true lover of tea and coffee, as usually prepared with sugar, is alike critical in rejecting sweet cakes, offered with them; and two odours too nearly alike are mutually injurious and offensive.

1157. The higher chemistry affords innumerable instances of the production and evolution of tastes, illustrative of these relations. Thus, as by the coalescence of two primary colours, or sounds, their third, harmonic or correlative arises, so there are instances in which, by an admixture of two primary sapors, their third is produced: thus the intense *acid* of nitre, and the *sweetest* of substances, honey or sugar, concur chemically in producing a compound pre-eminently *bitter;* as do also those *bitter-acid* and *acid-bitter* compound chemicals, the Nitrate of silver, and the Hypo-sulphate of soda, in the production of a *sweet* compound. Sulphuric *acid* may also be so employed with *bitter* vegetals, that *sweet* sugar shall be produced; and in these instances acid and bitter, which are the extremes of sapors, have a tendency to produce their mean.

1158. Chemistry affords us, also, a singular illustration of this analogy, in which the *three tastes are conjoined in unity*, and developed, like colours, prismatically,—we allude to boracic acid, which becomes first *warm and sour* in the mouth, gradually changes to a *cool and bitter* flavour, and ultimately tempers upon the palate to an agreeable *sweetness;* as colours devolve from light by the prism, warm and yellow, cool and blue, and having red between them.

1159. Chemistry assures us, also, that pure nutritious fecula differs only in the minutest proportion of its elements from sugar; and that from the *insipidity* of the one, by the slight action of spirit of vitriol, is developed the highly sapid *sweetness* of the other; which, again, by the action of weak spirit of nitre, is converted into a most powerful and poisonous acid;* and, finally, that by a more intense action of the same acid of nitre, the same *sweet* substance is metamorphosed into a nauseous substance intensely *bitter*, as above stated; all of which is strictly analogous with the like chemical developement of colours from colourless substances.

1160. Again, of the chemical fermentation of saccharine liquids, there are, we have seen, three kinds and degrees: one of which is vinous, and its product a *sweet* spirit; another acetous, and its product an *acid;* and an ultimate third kind, or putrefactive fermentation, the produce of which is alkaline, ammoniacal, nauseous, and *bitter*. To these might be added other illustrations from Chemistry, this branch of Esthetics being closely allied to the physics of bodies.

1161. Again, in vegetal nature, the lemon, which is *yellow* in colour and *acid* in flavour, is another indication that *colour and flavour* are regulated according to the same analogy, and we might also adduce instances of a similar association of *figures and colours* in natural objects: there seems, indeed, to be a natural tendency to conjugation among the senses and their objects, of which the union of odours and sapors affords not the only instance, although it is perhaps the most intimate, smell being in a great measure essential to taste, and given to animals to conduct to, and determine them in the choice of their food. And thus it is that colour unites with figure, as sculpture does with architecture, and figurative language, or poetry, with musical sounds, &c.

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* The Oxalic.

**1162.** As some persons have a natural *ear* for distinguishing harmonious sounds, and others an eye for colours or figure, so there is perhaps in others a natural distinguishing acuteness predominant in the other senses. There are, on the other hand, individuals altogether deficient in one or other of them; while few are without some discernment in them all, and of the power of comparing them; whence, if it were inquired what taste or flavour the colour *red* most resembles, however paradoxical the question may appear, they would hardly hesitate to answer that it most resembles *sweet;* and so on. Such inquiries are, however, as boundless as are the particulars of all-various nature,— so multifarious and wonderful in diversity, so simple and admirable in unity!

**1163.** The above may afford sufficient evidence of the relations of the *Appetitive Senses* in a general view: it remains only, therefore, that we indicate for completeness the analogy or relations of the *Passions,* on the opposite extreme of the sensitive system.

# CHAPTER VI.

## THE ANALOGY OF THE PASSIONS.

1164. The *Passions*, although they are a topic of never-failing fecundity, are still without a science. The term itself, in its widest signification, comprehends the emotions of the *internal passive principle*, or sentient, in man, as distinguished from the *internal active principle*, or will.

1165. But the Passions, thus defined, include the Appetites, Senses, and Affections; while, in an esthetical view, the passions, affections, and appetites, are subordinate to the Senses: so that, in truth and common acceptation, these terms are convertible with the view.

1166. In the present view, which is esthetical, Sensation is the genus, of which the Appetites, Senses, and Passions, are species; and of which the first are principally of *external* or *material* relation, and the latter of *internal* or *intellectual* relation. The one is sensible emotion connected with body, the other sensible emotion connected with mind, and they are both distinguished from the senses by *desire* or *aversion:* for the gratifications of esthetic sense are not consequent to desire, although they are often the antecedents thereof.

**1167.** So intimately and reciprocally are the Passions, Appetites, and Senses connected and related, that each in some respect involves the others. Hence, the *Passions* are loves or aversions, sympathies or antipathies, affections or defections, either *appetitive, sensitive,* or *intellective,* in accordance with the external, medial, and internal; and they engage the *Will* either in the acquisition of goods or the averting of evils.

**1168.** Thus, in external and material relation, there is the *Passion for Power* and possessions, or avarice; in medial and sensible relation, there are the *Sensual Passions;* and, in internal and intellectual relation, there is the *Passion for knowledge,* or curiosity. Of these, however, the sensual passions are principal, because sense, or passive intellect, is the source of passion; and, accordingly, they are that which is commonly understood by the term *passions:* but which, in an entire sense, are either desires of goods, or aversions of evils, present or in prospect, material, sensible, or intellectual.

**1169.** The passions are, therefore, *loves* or *aversions* of beauty or deformity, pleasure or pain, happiness or misery: if present, they are *joys* or *sorrows;* if in prospect, they are *hopes* or *fears.*

**1170.** As *beauty* is the perfection and good of material being, and *happiness* is the perfection and good of intellectual being, so *pleasure* is the good and perfect purpose of sensible being, and pain, misery, and deformity are their imperfections and evil. Hence, pleasure and pain divide the sensible passions into two classes; a distribution in which the poet and philosopher agree.

> " *Love*, *Hope*, and *Joy*, fair Pleasure's smiling train,
> *Hate*, *Fear*, and *Grief*, the family of Pain."
>
> *Ess. on Man.*

1171. *Pleasure*, or sensible good, and *Pain*, or sensible evil, are, accordingly, the agent and re-agent, or final causes of the Passions, opposed in triple distinctions; under which are also naturally arranged in triple opposition all the affections of sense. Thus, under one species of fear, come *Bashfulness*, which is physical; *Shame*, which is moral; and between them *Modesty*, which is sensible: and accordingly Plato, in his " Laws," has not unjustly designated shame and modesty as " Divine fear." There are also secondary and compound passions,—and such is *Anger*, composed of Hate and Hope; and *Gentleness*, or Mildness, which is the opposite of Anger, is composed of Love and Fear; and, hence, gentleness appeases anger, and love and fear suppress it.

1172. As the *Passions* and *Will* of man are the elements of moral effects, or the virtues and vices, these may be regarded as of two classes,—the one *free*, or determined by will,—the other *impulsive*, or determined by passion. Hence the *Passions* are virtuous or vicious according as they influence power, inclination, or intelligence, to a proper and natural, or an improper and unnatural end,—and the same may be asserted of the *will;* while morals in the abstract include the doctrines both of the will and of the passions.

1173. Accordingly, man, under the influence of passive *good nature,* may act virtuously without moral merit, for meritorious virtue is dictated by will and consciousness, or conscience,—while, on the other hand, it is evident he may act viciously, through passion and nature, without *ill will* ignorantly, and therefore, also, without criminal demerit, for this is also the dictate of will and consciousness; and such are the vices of children and savages. Hence vice and crime are distinguished, the first being passive, the latter active; the first produced blindly by the impulse of passion, the latter with intelligence voluntarily, or by the consent of will.

1174. To the will and consciousness, then, all moral merit devolves, as that alone by which man has free election, while the virtues and vices which depend upon *passion* are referable to the good or bad nature, or taste, of the man who exercises them, without any moral merit when unattended by the voluntary cultivation of a good disposition, or the control of a disposition inclined to evil.

1175. Thus the *Passion for Power* produces *ambition*, *avarice*, the *love of fame*, or reputation, and their subordinates; and these are virtuous or vicious according to their motive and management.

1176. Again, the *Passion for Pleasure*, or the indulgence of inclination or feeling, which are the chief passions, including those of the appetites, senses, and affections, and abound with distinctions, has a double tendency, virtuous or vicious, according to their limitation or license.

1177. Finally, the *Passion for Knowledge* includes *curiosity*, the love of liberty, the love of learning and of science, and their subordinates; and these, also, become virtuous or vicious according to their motive, measure, and tendency.

1178. Hence, the Passions are the fruitful source of virtues when they are under the control of a well-regulated will; wanting which, they are, however, more naturally prone to their extremes, which are vices. Accordingly, by the impulse of *power*, tyranny and violence oppress and destroy; the seductions of *inclination* conduct the body to destruction, and degrade the soul; and even *knowledge* or intelligence, impelled by passion and prejudice, becomes but the abettor of tyranny and sensuality, the slave itself of every vice. Happily, however, for the honour and interests of science and of mankind, the natural and prevailing alliance of knowledge is with reason and universal will, and its nobler end that of giving laws to power, inclination, and will.

1179. The chief objects of man, in the cultivation of the extremes of his middle faculties, of which we have been treating, should be to convert appetites into fair affections, and to subdue passion to sentiment, although in common practice, and in early life, every thing is regarded and pursued with passion or appetite; nevertheless, the enthusiasm of the man who has exchanged appetites for decorous affections, and passions for sentiments, is nobler, and seasoned with a more safe, permanent, and moral enjoyment, associated with intellect, and approaching to happiness: for good morals are intimately allied to good taste.

1180. To do adequate justice to a subject of such extent and importance as the Passions demands an especial treatise, and is not to be accomplished by a partial and desultory sketch like the present; but such a work would require an induction of every denomination of these affections of passive intellect, from which a correct analogism of their classes and connexions may be determined, and their proper discipline deduced from their just doctrine;—a task fraught with curious inquiry, and of no ordinary utility in the ethical regulation of the mind.

1181. To effect this partially, or even in a single species of the Passions, would be to benefit science, and to merit its distinction. An able analysis of fear, or hope, or love, or any other affection of the mind, has surely as much interest for mankind, and claims at least as much attention and applause, as an equally ingenious analysis of a material substance, and is certainly more necessary toward establishing that self-knowledge and regulation which is so essential to the dispelling of ignorance, and to the fruition of happiness.

> "The spacious west,
> And all the teeming regions of the south,
> Hold not a quarry to the curious eye
> Of knowledge, half so tempting and so fair
> As MAN to man."—AKENSIDE.

1182. The above may, however, suffice to mark the position of the Passions as a portion of science, and to shew how they connect the esthetical, or sensible sciences, with the ethical or moral. Whether we have given a sufficient or unexceptionable account of the Passions here, or of other particulars of science elsewhere, is of comparatively little moment, if we have put them in their proper places; for when things are placed in order by a true relative adjustment, it may become an easier after-task to regulate them specifically, to correct them individually, and to extend them to their legitimate boundaries. Any further analysis of the Passions is therefore inexpedient here; we having already trespassed upon the ground of ethical science.

1183. Upon the whole, the wisdom of nature, apparent and wonderful in all things, is especially admirable in the rise and decline of the appetites, senses, and passions, which are prompt and acute in youth, the season of acquisition and sense, and decline in the prime of manhood, when they have stored the mind with the matter of care and thought. Then succeed in natural course dulness of hearing and dimness of sight, followed by decay of appetite and decline of passion, when the sensitive faculties, having accomplished their appointed office, give way, in despite often of evil inclination and habit, to the staid and sober duties, and refined enjoyments of intellect, by which the healthy mind is prepared for the superior functions of reason and morality.

## OUTLINE VII.

# ETHICS:

OR,

THE ANALOGY

OF THE

MORAL SCIENCES

INDICATED.

# ETHICS:

## OR, THE

## ANALOGY OF THE MORAL SCIENCES.

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## INTRODUCTION.

1184. As the two principal outlines immediately preceding this comprehend the *Physical* and *Esthetical* branches of natural or physiological science, there remains only to the present department of our work the correlative branch of *Ethics*, to which we have been conducted by that diathetic link of science, whose subject is the Passions, by which the sensible and the moral in man are reciprocally connected.

1185. Of all the sciences which interest and engage his attention, the ethical are by far the most momentous, involving, as they do, his individual and general welfare, and his hopes; nor have they failed proportionately to excite the consideration and earnest inquiries of the wise and virtuous in all ages, as is evinced by the overflow of moral, political, and religious literature.

1186. Multifarious as are these records, and diverse as are the plans and opinions they contain, there are still certain natural determinatives of all doctrines by which they assume to themselves classes; and a correct deduction and classification of the principal moral systems might enable us to form a critical estimate of their value and tendency, and become a guide and guard to future inquirers, moral, political, and religious.

1187. As a first step, Ethics may be distinguished, according to their origin, into *natural* and *institutional:* the first, founded on universal reason and consciousness, or conscience, is theoretical or scientific; the latter, founded on the customs, habits, laws, and institutions of particular ages, countries, and communities, is arbitrary, experimental, and practical: and as it is to the natural and true that the institutional and expedient owe their force and obligation, — and the first is that by which Ethics are to be estimated and improved, — we have confined our view to nature in seeking the true relations of these sciences; without, nevertheless, impugning or questioning the obligations of man in society to the practice of its ethical institutions and ordinances.

1188. The want of attention to this distinction in moral and religious inquiries, and of a satisfactory survey of the ground of Ethics, have occasioned disunion and confusion, and given scope to narrow and arbitrary systems at variance with truth and with each other: to trace which through the entanglement of sectarism and controversy (moral, political, and religious), would prove an Herculean and needless task. System after system has arisen, and may arise, on every subject susceptible, like Ethics, of innumerable positions and boundless views; to class them generally may therefore suffice to expose, in some measure, their failures and deficiencies.

1189. The distinction of Ethics into *natural* or scientific, and arbitrary or *institutional*, affords also a primary classification of the three genera of moral, political, and religious systems; and if the validity of the latter distinction is dependent upon the former, that is, the institutional upon the natural, then are the systems of nature better founded, at least, than those of institution.

1190. Of those founded variously on *nature* and reason, we may regard, as instances more or less mixed, the moral systems of Christianity,— those of Cudworth, Wollaston, Shaftesbury, Hutcheson, Smith,—Aristotle, Plato, Socrates, Pythagoras, and innumerable others less reputed; and, of the class predominantly *institutional*, we have like instances in the various systems of the politico-moralists, from that of Moses to that of Owen, including those of Bacon, Hobbes, Mandevill, Montaign, Chesterfield, Godwin, Bentham, and many other.

1191. The systems of moral philosophy, of both these classes, may be again subdistinguished analogically, according as they participate in principle the prime divisions of the genus of science and of man, to which they belong, affording three classes of authorities.

1192. Of those who have moralized *physically*, may be instanced Anaximander, Strato, Democritus, Helvetius, Hume, Mandevill, Malthus, Owen, &c.; of *sensible*, or sensual moralists, are Aristippus, who Gassendus reckons first and chief of the "*voluptuarii philosophi*,"—also Epicurus, Shaftesbury, Hutcheson, Rosseau, Smith, &c.; and, of *intellectual* moralists, may be instanced first, and especially, Christ and the Apostles,—Socrates, Plato, Aristotle,— Cudworth, Paley, Kant, &c. These instances incline variously to each class; and many others less reputed, and of mixed and less predominant characters, might be added to them: but we aim only at indication, and not at complete enumeration.

1193. As, however, the whole of Ethics is predominantly of *intellectual* relation, it is apparent that, however ingenious and skilful the moral, political, or religious structures may be which are thus raised upon *physical* or *sensible* foundations, they are essentially inferior in principle, and proportionately deficient of a full moral and intellectual purpose; a conclusion amply supported by the effects and defects of many celebrated systems, both ancient and modern.

1194. Hence, under *physical* influence, Ethics have inclined to materialism, fatalism, and force; and, under *sensible* influence, they have tended to epicurism, luxury, sensuality, and voluptuousness: both of which influences are adverse to just intellectual ends, moral, political, and religious; and in every other general view analogically we arrive at the same conclusion.

1195. Yet, under an extreme and exclusive *intellectual* influence, whereby they are subtilized above their sphere, Ethics become ideal, visionary, and impracticable; and it is only according to a due adjustment of their elements, in which the intellectual is kept principal, that morals can approach theoretical and practical perfection.

1196. Nevertheless, any other plan of moral accomplishment than that which has an intellectual or spiritual foundation, will fail of right moral purpose; as we have instanced of the two other bases, the aim of both which, according to true Christian morality and scriptural language, attempts "*the perfecting of man through the flesh*;"* but in the opposite aim, through intellect, consciousness, or conscience, the sensible and physical perfecting of man, will follow *the perfecting of man through the Spirit.* "Seek first the kingdom of God, and all other goods shall be added unto you."

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* Galatians, iii. 3.

1197. Man has altogether the same triple nature as the universe,—physical, sensible, and intellectual,—and it illustrates in a remarkable manner the whole diversity of moral character of the individual and the species; and the perfection of either depends upon the same principle of harmony that regulates the senses, and throughout all nature: according to which, the chief element, or the *moral and intellectual* nature, should so predominate as entirely to balance and sway the other two; of which the *physical* should succumb to the *sensible*, and a harmonious subordination of the three elements govern the whole man.

1198. A wide inquiry into the evil influences and effects, individual and social, of ill-grounded and partial systems, would confirm the foregoing inferences, and prove eminently edifying to the practical moralist. Thus, the political and expedient morality of Bacon betrayed that great philosopher; and the system of Machiavelli converted states and individuals into crafty and merciless banditti.

1199. The seductive maxims of a Chesterfield, by reconciling external politeness with internal ferocity—flexible manners with an implacable mind—or "*suaviter in modo*" with "*fortiter in re*," although the latter be in itself an inoffensive and useful maxim—sacrifice true dignity and manly virtue at the idolatrous shrine of courtliness; and even the *disinterested* virtue inculcated by the sentimental Rousseau, excluding himself from the sphere of his own benevolence, wrought in his mind misanthropy and discontent: separated, as all these have been, from a purely intellectual morality.

1200. But if, after all, ethical systems should be deemed to have little *immediate* influence either on individuals or the bulk of mankind, it must be acknowledged that virtues are habits more immediately dependent on education or discipline than on doctrines—that the vicious seek not, but reject moral instruction—and that the virtues and vices of men in general, like their style and language, are those of the time and country they live in, to which few rise much superior, and few sink very far beneath.

1201. Moralists and divines may reclaim a few ill-disposed, or improve and confirm some well-disposed, but the multitude of mankind is modelled by the laws and customs of society, aided by the force of fashion, imitation, association, and the influence of rank and example: in a word, its morals are of the class we call *institutional* and arbitrary.

1202. Hence the necessity of political institution to supply the absence of self-direction and control in the individual and multitude, and hence the connexion of particular morals with political science; rulers and politicians, leaders of fashion, and, above all, mothers, heads of families, and heads of states, are therefore chiefly responsible for the moral practices of mankind. To these, therefore, the framers and regulators of the customs, education, laws, habits, and fashions of society, and the dispensers, under Divinity, of the happiness or misery of their species, belongs the chief importance of a right system: for knowledge must ever precede rule and action with those who act not blindly, but with intelligence.

1203. If *Political* science, which connects men in community, be thus intimately allied to the *morals* of individuals, how much more intimately are these connected with *religion*, which embraces all intelligence in one family under the parentage of Divinity! the sole sufficient guarantee of the morality of states and individuals.

1204. As every complete system comprehends principles, means, and purpose essentially, the system which is built upon either of these exclusively must be defective; yet some philosophic moralists place all ethical virtue on natural good *principle*, and vindicate their system and practice by the merit of their maxim: other religious moralists place it on the known righteousness of their *means*, and justify their actions by their lawfulness; and, lastly, there are those who moralize according to art, craftily, and place all virtue on *purpose*, or right aim or intention, and defend their principles and means by the expediency of their design or purpose.

1205. The first of these enjoins us to act according to *principle*, mechanically; the second, according to right *means*, knowingly; and the last, according to expedience or good intention, artfully: so long, however, as *principles*, *means*, and *purpose* are correlative and coincident, will these moral dogmatists oppose each other with all the forces of scepticism; each, right in his own point of view, impugning with seeming cogency the dogmas of the others.

1206. Hence the philosophist condemns means and purpose as insufficient motives to reason, and demands a *principle* as a rule of action; but principles, however plausible and good, are general, and actions are particular: principles, also, when imperfect, as assumed principles are apt to be, will propagate their defects, and conduct us in error.

1207. The religionist, with less danger, condemns these human principles; and, regardful of the *means*, commands us not to do evil by any means that good may come of it in the end, which is future, hidden, and contingent.

1208. Lastly, the politician and statist asserts, with equal plausibility, that principles and means are invalid and nugatory independent of their *end* —that lawful means do not justify evil purpose— and that it is the end which should govern the means; a maxim which is, when arbitrarily employed, as infamous in morals as it is admirable in material science and art.

1209. Nevertheless, in the promulgating of Ethics, as in the communicating of all other knowledge, they are to be regarded variously as *disciplines, doctrines* or sciences, and as *arts.*

1210. In youth and in the early state of society, ere the understanding, individual and social, is qualified for the intricate correlations of doctrine, and when habits and customs are to be established, morals are to be regarded and communicated in the way of *discipline.* Principles and duties are to be then inculcated by the parent and the patriot, lawgivers and instructors; and then it is that virtue is to be practised for its own sake: for the habit of virtue is then the end of action.

1211. As man, individually and socially, approaches manhood, and the moral and intellectual faculties become developed, the media and relations, doctrine and system of morality, are objects of principal regard; Ethics are then to be treated as a *science,* as they were previously as a discipline, that habit may expand itself rightly, or under the proper regulation of reason and intelligence.

1212. And in the mature state of manhood and society, morals are to be regarded entirely for practice as *art,* and more immediately for their ends; not for the sole sake of virtue, but for happiness, which is its purpose.

1213. Yet not all this, nor either of these, but in subordination, for virtue, reward, and their means, are never to be wholly separated; but when morals are to be regarded as *discipline,* virtue is to be held as principal,—when regarded as *science,* their means and relations are the chief object,—and, when regarded as *art,* their end and reward are supreme; and in each case the correlative objects are to be held subordinate to their principal.

1214. In regarding Ethics under these three distinctions, the latter become respectively principal; and, viewing Ethics as a whole, it must be inferred that the end is of most importance, and that *happiness* is the principal object and purpose of Ethics; and since *arts* and *institutions* are equally for *ends,* inasmuch as morals are practical, they are also institutional and technical, and chiefly, therefore, for an end.

1215. We conclude, nevertheless, that *there can be no perfect system of Ethics in which the rules of moral action, or virtue, present not a suitable accordance of principles, means, and purpose, wherein duty and interest concur in harmony with nature and right institution:* a conclusion applicable to individuals and communities, and warranted throughout all moral history.

1216. If, accordingly, moralists, legislators, and divines have hitherto found their precepts inadequate to the control of the vicious, it becomes the more necessary, in these times of advancement, that they should review their ethical systems and maxims, test them for correction and improvement by the standard of nature, revelation, and reason, and adapt them to the state of mankind.

1217. Again: the allegory of the poet, which declared invention to be the offspring of necessity, and that tritest of all proverbs—"*necessity is the mother of invention*"—belong to philosophy as a principle; and to this principle of *necessity* and *expediency* may be traced every art and science that has existed; and if we inquire into the practical origin of moral doctrines, we shall find it at the same source.

1218. Accordingly, the earliest legislators, the first parents of families, patriarchs and rulers of mankind, the organizers of civil society, were the first moralists; and, acting politically, they did not seek the law within themselves, nor in the nature of their subject itself, but established on external *expediency* the principle of moral duty and obligation, as a law or rule of conduct to others: they properly treated Ethics as a *discipline*, and the species as in a state of *pupilage*.

1219. Hence the principal importance of morals became attached to *virtue* as a principle, to the neglect of their purpose, which is *happiness*, and of their means, which are *interest* or *love*. Men were accordingly required to be virtuous for virtue's sake, as a motive; but this has, in the progress of man, ever been found to be an insufficient incentive to practice, when unaccompanied by political law denouncing punishment against the offender: whence civil laws came to be substituted for moral law, and made its measure; and men have been deemed good or bad in society, according as they became followers or violators of the laws of *institution* and *policy* through expedience, and not according to those of *nature* and *morality* through conscience.

1220. And, although the laws and maxims of paternal and political legislation and morality have been founded on truth, they have not embraced the whole truth; yet, urged as they have been with need and sincerity—with great and deserved plausibility, and sanctioned by ancient wisdom and long-established usage,—and enforced by discipline and authority, they have become confirmed in the opinion and prejudice of mankind as the sure guide and first fountain of morals.

1221. So long, however, as internal incentive is wanting, external coercion will be necessary to enforce morality, and physical power must supply the place of moral motive; yet, in the uncorrupt state of the heart, the forms and force of social laws are needless: they are neither designed for, nor addressed to, the good man, but are framed and instituted for the reckless and vicious, with whom no other motives than those of narrow self-interest and pleasure will prevail. It is true, nevertheless, that they are herein self-deceivers and mistaken, for vice and crime are ever kindred to folly.

1222. Since, then, law and force are solely essential as motive to the indiscreet and evil man; if moral law be, as it is, essential, it must be such as can supply a motive to the wicked, rather than the good, who require none. We are aware, notwithstanding, that no such *absolute* distinction of good and evil exists among men; yet this reasoning applies to every man, inasmuch as he is a compound of both, and our argument is cognizant of the species rather than of the individual.

1223. It is, then, in supplying an adequate moral principle or incentive to the wicked, that moralists and legislators have principally failed, in the advanced state of man and society; so that expediency even has here missed its aim by inculcating *virtue*, or duty, as a motive, in place of *right-interest:* but let moral virtue, or merit, be rendered in any way evidently profitable by right, reward, or advantage, and all the world will follow it.

1224. We would therefore impress this maxim on the minds of legislators and politicians, as immeasurably more efficacious in the art of ruling and moralizing mankind in its manhood, than all the penal laws against vice and crime that have been enacted or ordained since the world began. Nevertheless, had there not been much accidental and natural agreement between the expedient and the true, morals and political institutions had failed altogether; as we find they have in many practical instances recorded in the history of mankind.

1225. Necessary, nevertheless, as the restraints of religion, laws, and customs, must ever be to the ignorant and degenerate, there is yet so essential a propensity to rectitude in the truly rational mind, that Ethics, for their own sake, will ever share its regard and attention independently of all institution; and in both these respects the value and importance of a right moral system, and of the progress of the moral sciences, become manifest.

1226. Unfortunately, however, for the advancement of these sciences, the prevailing fashion of philosophy, by engaging the philosophic mind in experimenting amid the particulars of Nature and Art, disqualifies it for that broad contemplation which is necessary to a science grounded, like Ethics, on universals, and that breadth of principles and practice which is necessary to an art that comprehends the world.

1227. Hence, while society is justly indebted to modern times for an enlightened and beneficial reform in its physical knowledge, the moral understanding of man would be in danger of subversion, should not the preponderance of moral over physical influence, or force, be sufficient in the end, as it naturally is, to resist this tendency, and to change the bias of the mind in favour of moral and social science.

1228. Important, too, as ethical science must ever be, that it is so, nevertheless, with reference principally to practice, is evident from its relation to active intellect, or will; it is, therefore, subordinate to its *art:* and as the excellence of the material or physical artist depends upon his *particularizing* in his art, and the genius of the esthetical artist appears in his *generalizing*, so must the excellence of the ethical artist depend upon his *universalizing.*

1229. And this principle is apparent throughout Ethics, since there is no true *morality* in those principles, nor in that practice, which aims at the exclusive advantage of an individual or party; neither, in *politics*, are those principles, nor that legislation, just or equitable, which is designed for the sole benefit of a class or community; nor, finally, in *religion*, more especially, are those principles nor that doctrine, ethical or charitable, which concede only the good and salvation of a sect or community, or even of a race of beings, to the exclusion of any individual.

1230. But that *moral artist* does not act virtuously or morally,—nor that *political artist*, or statesman, with true policy,—nor that *religious artist*, or divine, religiously, whose purpose, while it is good for an individual or community, is not so UNIVERSALLY, or for all spiritual beings; and in this *universality* lies the transcendent excellence of pure Christianity: by departing from which, its doctrines and practices, both moral and religious, become corrupted.

1231. Since, then, the *practical* reference of Ethics render their science subordinate to their art, and ends or purposes are principal in art; and since the end of all art is some *good*, which good of ethical art is *happiness* or *felicity*, this end must never be lost sight of by the ethical artist; and as his means and principles must be subordinate to, or co-ordinate with, his purpose, it is imperative, also, that they too should partake of the nature of his end in being *good*. And although *virtue*, as a *principle*, is estimable for its own sake, the practical moralist is not to act so much for the sake of virtue as for its *end*: even as vice, its opposite, is to be avoided, not on its own account, for it may be pleasant, but for its consequence or *end*, which is *evil*.

1232. A right discrimination, in this respect, appears to be of the utmost importance, because the most rigid moral sects have been opposed thereto; but, however remarkable these sects may have been in some instances for fanatical devotion or heroic fortitude, they have, nevertheless, given to their moral systems the greatest fault they are capable of, by rendering them generally impracticable, or without rational means and motive: for practice, we have seen, is principal in morals.

1233. The term *virtue* has not only a universal and abstract signification, but it has an endless diversification: the Pythagoreans, who used it in the abstract, yet distinguished it into many species, had physical virtues, ethical virtues, political virtues, cathartic virtues, theoretic virtues, paradigmatic virtues, &c. So we have cardinal virtues, Christian virtues, moral virtues, physical virtues, &c., in their various species, and there is no end to the race of virtues, which in the abstract means power or capability to some end, physical, sensible, or moral. Virtue is, therefore, whatever be its form, for something else: for it is an instrument or faculty, and therefore not rationally to be regarded as a moral end.

1234. *Virtue*, then, in the entire acceptation of the term, is an efficient not of morals only, but is as various as its objects; yet has it similitude of relations in them all: hence in Agriculture, as in Morals, it is by *virtue* of labour and the soil that men obtain corn and wine, and all the rich produce of the vegetal creation; and for this *produce* it is that the husbandman cultivates the soil, and not for the sake of any virtue in the soil itself, or in himself.

1235. If, however, an opposite doctrine were to be inculcated by the agriculturist, it is barely possible that a few fanatic grubbers might be found to cultivate the soil *disinterestedly*, or for its own sake, or for its virtue independently of its produce,—and such in effect is the principle of slave-cultivation; but men in general could not be found from a free motive to follow such a doctrine in practice: and if through any circumstances such a theory could be established in any country, the practice of agriculture would there languish or cease; or at least it would not be followed upon principle, but men would till the land in agricultural demerit for the sake of its fruits, and esteem the virtue of the soil for their sake alone.

1236. Even so would it be with the mariner, who, under a similar doctrine, should plough the ocean amid dangers and toils;—the miner, who should so entomb himself in damp and mephitic darkness;—the artist, or author, who should thus consume his life in anxious studies; or the devotee, who should similarly practice every species of austerity, and undergo sufferings and self-denials, for a principle without a purpose or reward. Such practices would surely savour more of the ridiculous than of the admirable or sublime.

1237. Even so especially it is in Morals and all Ethics, when men are called upon to cultivate *virtue for virtue's sake*, and not for *happiness*, the fruit, produce, and purpose—the heavenly reward of virtue. Yet into this mistake have most of the moral sects fallen, whether Brahmin, Gymnisophist, Pythagorean, Platonist, Stoic, Rationalist, or Sceptic; and many have presumed to palm it upon Christianity, and to oppose it to the common sense, natural instinct, and conscious reason of mankind.

1238. The moral doctrine of Moses, and that of Christ in particular, are built upon rewards and promises. The sermon on the mount is full of them: we are therein instructed to lay up treasure in heaven—to ask and receive—to seek and find—to knock, and it shall be opened—to seek first the kingdom of God, that all goods may be added unto us—that we should do to others as we would they should do to us, and love our neighbour as ourself; in a word, the mighty motives to Christian virtue are present and eternal rewards. Nor are we in any instance required to act from, or idolize, an abstract principle of virtue: an idolatry which the patriot and stoic Brutus justly complained had in the end betrayed him.

1239. We admit, notwithstanding, that all virtue is to a certain extent a moral end (for we in no case contend for the absolute), and that there is a self-gratulation and conscious satisfaction which arises from virtue and virtuous practice, but that it is subordinate to the general moral end of happiness or good, individual, social, and Divine; just as the mechanic has a pride and satisfaction in his tools, the professor in his instruments, and both in their practice: but these satisfactions are secondary and dependent on their ends, or their instruments and means would be disregarded. This is one of the admirable ordinances of Providence, and a part of the reward of the well-doer, to make sweet his toil by the delight of virtue; but when the moralist makes even this his chief regard and principle, he does just as the artist does who delights only in the materials and practice of his art, disinterested of its use and purpose.

1240. Yet if by *virtue* moralists mean *good*, then an *end*, and not a *principle*, is the thing signified; and we dispute not the term. But, although in a loose and colloquial acceptation virtue and good be synonymous, the scientific moralist has employed them rather in reference to each other as extremes, while in general literature the vulgar and scientific senses have been confounded.

1241. The doctrine above oppugned, which is indigenous among the Brahmins of Indostan, is undoubtedly of political and conventual origin, and may be traced through the Stoic, and other philosophic sects, to the Pythagoreans and the Egyptian priests: both of whom lived in community, and held their goods in common. With them morals were political, virtue was monkish obedience, and self-interest criminal. It is a doctrine, too, essentially coupled with *fatalism* and force,—more Mahometan than Christian,—and gives to morals, of which *freedom* and election are the very essence, the stamp of slavery and necessity.

1242. The effects of such political morality are to deprive man of his *individuality* or *personality* for the sake of a *community*, and to bereave him of all *personals* by rendering *property*, or that which is *proper* to him, *common*; which involves, indeed, a contradiction, and negates possessions,—neutralizes the motives of the individual to distinguish himself, and that emulation to which mankind is indebted for its noblest models. Upon the same doctrine hinges the fallacy of some new schemes of society which have for object the equalizing of individuals for their material advantage, upon a manufacturing principle of economy, by which personal goods are to be rendered cheap and common, animal nature multiplied and maintained at a *maximum,* and sensual enjoyment promoted to the full, with the dismission of all uncomfortable consciousness of individual inferiority, at the expense of individual superiority and distinctions: which schemes, if not wholly visionary and without reason, are at least based upon false views and extremes, and false estimates of human and universal nature, and are not *moral* (for morals are for the individual), but are falsely *political.* Such principles and doctrines, we have said, may be expedient in early associations of the species, but are destructive of true moral and political ends in a state of high cultivation. Nevertheless, it is in the aiming at false extremes and imaginary perfections, that men chiefly fail in their endeavours at improvement.

**1243.** The habit of implicit conformity to the will of others, incapacitates the mind for moral determination and voluntary action; for action and reaction are not only physical, but moral correlatives: and in grounding their morals upon duty only, moralists destroy the natural will, inclination, and conscience of man. Accordingly, he who does what he wills and wishes, will be infinitely more active than he who acts only because he ought, or is commanded,—whose energies being passive, he cannot advance, but he and his race must become as listless, apathetic, and degenerate as Islamites.

1244. It is thus that liberty is as important morally as it is politically, and all that is truly great and good in man and society is founded upon moral freedom; nor need we resort to history for instances of so obvious a truth.

1245. The proper discipline of morality is therefore the cultivation of *good-will,* essentially free, and the keeping awake of our *moral activity,* not laying it asleep; the natural incentive to both which is the good and interest of the moral agent himself, of which the general and universal good are essential constituents.

1246. Moral perfection consists, therefore, in the harmonious concurrence of the active and passive moral functions of the mind, or the will and conscience of man, self-subordinated to the general and universal will.

1247. And although the moral doctrine above questioned accompanied the political virtue which flourished among the antient Greeks and Romans, affording glorious examples of patriotism and public virtue, yet it is not the *rare,* but the *abounding,* that is most to be esteemed in morals:

nor do we believe that acts of self-devotion and heroic virtue would ever be of rare occurrence when called for among a practically moral people, for with such the heart must ever be in the right place, and men of a good genius are, above all, prone to distinguish themselves; nor have any moralists been more remarkable than the Christian for forbearance and self-devotion.

1248. Further, with regard to moral motive, man cannot be *disinterested* if he would, and at the same time preserve his rationality; since a reasonable being can act only with counsel, and but with a view to some end: to put the end out of view in moral action, or to make a *principle* its end, is to rob virtue of its proper object. To require man to act only from the imperative of duty, or obligatorily, and without interest or end, gives moral motive over to necessity, and deprives it of merit, and constrains a man to act mechanically, or through external impulse,—as a slave, and not as one freely engaged for hire or reward.

1249. Such specious disinterestedness deprives virtue of true moral impulse, and thereby apportions the greater labour to the weaker motive; and although there be something chivalrous and heroic in disinterested virtue, it is ill qualified to become a universal moral motive for mankind; add to which the true dignity and government of virtue belong to reason and not to enthusiasm.

1250. The end of all moral action is, we repeat, *good;* moral good is *happiness*, and this happiness, this good, and this end, are never to be lost sight of by the moralist; in fine, *freedom to act for an end* is the very essence of morals; nevertheless, it is evident that *duty* and *interest*, or *reward*, concur therein, and the Divine moralist inculcates both: we are far, therefore, from denouncing the motive of *duty*, by bringing it into subordination with *right-interest* in practical morals, and confining it to a theoretic station.

**1251.** This doctrine will nevertheless be so liable to misconception, and to the reprehension we are accustomed to bestow upon selfishness, that a more extended qualification thereof may be requisite to render it palatable to our pride, and to save it from misrepresentation and opprobrium. We designate not, therefore, by the term *interest*, that gross and narrow selfishness which is improvident of our universal ultimate good, and is inimical to true self-interest, but that liberal, intelligent, and expanded selfishness, which, disregarding present advantage, takes an interest in self-denial, and in the good of others; and that broadest of all selfishness which identifies man with man, and with his God.

**1252.** We mean that ultimate selfishness by which the Divinity is above all distinguished,—by which He draws all to Himself; whence is derived the selfishness by which man also grasps at all, of which it is the pattern, and in which man errs only when, through ignorance and degeneracy, he grasps individually, materially, sensually, and blindly, for want of perceiving his genuine, best, and highest interest in connexion with virtue and intellect.

1253. To be morally virtuous is, accordingly, imperative in the natural constitution of a truly reasonable or intellectual being, for reason, right, just, true, wise, and good, are terms strictly coincident, and of the same signification under different views. In proportion, therefore, as a man is criminal, the faculty of reason and intelligence fails him; and the vicious act of such a man, however great he may be, impugns his understanding, lowers his rank in society, and degrades him in the orders of being.

1254. It follows upon the same ground, inversely, that virtue is equally elevating of character, and of genius too; for understanding and ability are coincident: and upon this foundation alone is virtue entitled to assume the place of interest, and to become a moral end. In doing which, nevertheless, it takes upon itself the character of an heroic principle that soars above natural and ordinary humanity, incompetent to general practical utility, and to the highest object of moral ends.

1255. And of the necessity of a just moral regulation the life of every man bears incontrovertible evidence, and, sooner or later, it forces his conviction and voluntary assent thereto (if not, happily, by the power of understanding in early life), yet it does so in the end by the fallacious or fatal consequences of a selfish immorality; which, not unfrequently, we fear, succeeds to a better desire, founded on the fragile principle of realizing virtue for its own sake, in attempting which the heart has fainted.

1256. From such heroic principle sprung by degeneracy the *morals of chivalry*, and thence has arisen the more modern substitute for morals falsely called *honour*, which is, in all its shapes, the morals of the court, the regiment, and the den; holding in similar self-devotion the courtier, the duellist, the gamester, and the thief: whence arise further occasion for not only political laws, but for the higher and more terrible denunciations of religion, to aid and enforce the true principles of virtue, and to add the stimuli of reward and punishment, and the utmost self-interest, to the motives of duty and virtue.

1257. It is the true universal object of all law to assist the motive to right-doing, and to remove or impede the motive to wrong; nor does it signify whether the subject of the law be moral, political, or religious, nor even whether it be material and mechanical, or sensible and esthetical.

1258. If it be granted that the heroic and enthusiastic principle of disinterested virtue has the power of elevating and ennobling the possessor, and that the virtue of reward has a mercenary and humiliating tendency,—and if the utility of the former in affording moral models and examples of human conduct in an uncultivated state of society be also admitted, it becomes yet a serious question of the moralist whether a few illustrious characters or splendid actions, contrasted by the general baseness and depravity of mankind, can compensate to the eye of reason and truth for the absence of a more general, although less vain and dazzling, prevalence of moral light and practical virtue.

1259. It is especially for his consideration, too, whether the brilliant examples of heroic virtue are not magnified in the pages of the historian, and consecrated to fame, so that they admit of no parallel in aftertimes; but, like the established models of fine art, become standards for imitation only; at the same time, that the manners and morals of the multitude are fashioned by the more immediate and contemporary, but less ostentatious examples of practical virtue, better suited to political society, to civilization and science, and also to nature, who not only entices us to all our duties of mind and body by enjoyment and reward, but who also, if we fail to follow her dictates or attend her call, inevitably condemns us in the end to punishment and penitence.

1260. We have already deprecated for our doctrine the obloquy attendant on a selfish morality, as commonly regarded; but truth, and not concession and flattery, is the proper instrument of philosophy: and as we are anxious not to be misunderstood upon this point, on account of its importance, and of the degrading misapplication that a twisted interpretation of this doctrine may conduct to, we will yet further defend our position.

1261. Truly regarded, we have no apprehension of evil consequences from right-interestedness, which is but the duty a man owes to himself,—the first and last of his duties, and that to which he is most readily inclined by his moral nature; which, indeed, goes hand in hand with right inclination. And it is only necessary for every individual to do the best that can be done for himself that the whole genus of man may move morally and happily, while the ostentatious principle of disinterested and public virtue too often elevates the individual without benefiting the many; and when public virtue is not founded on individual or private worth, it springs from enthusiasm or madness, and is not at all to be trusted: for true policy and all morality, like " true charity, begin at home."

1262. The ennobling power of heroic virtue may indeed make a hero, without influencing the morals of mankind, or affecting them otherwise than with admiration, or envy and despair; admiration of such exalted virtue and self-devotion,—envy and despair of attaining such elevation, and its soul-inspiring reward. Better, therefore, are those practical moral principles which raise the mass of mankind, and contribute less to the glory of individuals than to the honour and happiness of the species: add to which, there is nothing incompatible in the union of these motives.

1263. These principles we believe to harmonize with such a moral conduct of the individual as best ensures his own permanent good in conjunction with that of others, evincing

> "That true self-love and social are the same;"

and we regard as extremes, equally to be avoided by the moral man, that interestedness which begins and terminates in self, and that disinterestedness which deceives him with the fanatical idea of a total self-sacrifice.

1264. An eminent law authority admits the fact politically, that *selfishness is the mainspring of human action;* and authorities equally great have adopted it as a universal principle, which others have controverted: and Granvill Sharp, in his "Law of Nature in Man," allows it to be "a universal law," but not to be "the universal law of action." None, however, have regarded that self-love is not simple, and that that may be true of one of its elements which is false of the other.

1265. Accordingly, if we analyze SELF-LOVE, it resolves, in the first place, into SELF,—and this, separately examined, terminates in neither more nor less than *consciousness,* which is *universal;*

and, secondly, it resolves into LOVE, — which also, separately examined, signifies in every case *partiality* and preference, and is the desire by which self, or the same, would unite with *something out of self*, or the different. Now self of necessity, *standing first*, requires no *preference;* and *to deny self altogether is to quit consciousness*, as he does who sacrifices life to any object of desire or love.

1266. In strictness, therefore, *self-love* is a contradiction, for man is indigent of what he *loves* or desires; and a man does not want himself, for *self* he has; and he will not act for the sake of self, but for something he wants out of self, which he regards as his *good.*

1267. SELF-DENIAL is the antagonist, or opposite, of *self-love*, and concurs therewith in the moral operations of the individual, and is capable of a similar analysis: DENIAL, in this case, signifying *rejection*, and being the will or desire by which *self* would disunite from something *out of self.*

1268. SELF-INTEREST is the same as *self-love*, for INTEREST is the desire of the *acquisition* of, or union with, something out of self, as self-*denial* is the alienation and opposite of such acquisition and interest. As principles of moral energy, therefore, self-interest, self-love, and self-denial, concur universally, for man desires either to *receive* or to *reject* in all his actions.

1269. From this concurrence arises what may be called SELF-ELECTION; and *election* implies *freedom*, or choice, that is, *free will*, and demands a right *knowledge* of good and evil, that he may elect with understanding that which serves his true interest or moral end; that is, choose or will his motive according to the best of his understanding.

1270. It is not self, then, or the *subject*, but the *object* of self, that he prefers or elects, and the onus of duty lies in the choice of the best objects to identify with self,—that is, the least particular, and the most general or universal; and for this he is to use his *self-election* in the exercise of *self-love* and *self-denial*.

1271. *Self-love* is always sacrificed to *self-denial* equally by the vicious and the virtuous, when the objects of *self-election* require choice; and a vice or virtue established in the mind becomes the object of self-election, habitual, hobbyhorsical, and expedient to it: and to this object, self-denial operates as strongly as self-love. Humanity, country, friends, family, all affections, whether of avarice or other passion, or appetite, virtue or vice, give way to this ruling object, and it becomes in their place the incentive to action.

1272. So imperative is this love of the object thus associated with self, especially if it belong to the senses, that, be it lust, gaming, gluttony, or other vice, it will carry a man on to the destruction of self, regardless alike of body and spirit. Hence the expedience of engaging proper objects, or determinatives of action, and of diverting the mind from bad associations of mind and body, which thus enslave the will.

1273. *Self-love,* we have said, resolves into personality, subjectivity, or *self,* and impersonality, objectivity, or *love;* and as the object or thing loved is as various as are the relations of man, so also is the subject, or self, correspondingly various: and accordingly there is a *self of the body,* a gross and appetitive selfishness—there is a *self of the senses* and affections, being a more refined and pathetic selfishness—and there is also a *self of the soul,* mind, or spirit, above all other self, through which the whole is rectified; an intellectual selfishness, whose good alone is purely moral, connecting the good of the individual with the good of all through will, and mounting to the love of God.

1274. Hence the Passions enter not into the perfection of moral motive, which is to be virtuous from good will, without the incentives of fear and hope; and good will is the willing of good, which is the highest moral end, and terminates in religious love, which divides itself into the loving of God, the universal Being, with all our heart, and our fellows generally, as we love ourselves individually.

1275. And he only truly loves himself, and is most of all himself, who exercises his whole self-love through his moral, and not through his physical self. It is then that the principle of self surmounts in dignity and importance the more specious principle of disinterestedness and public virtue, and that the love of happiness, if it be not the same in effect as the love of virtue, assumes a more soul-exalting influence in morals.

1276. If, on the contrary, morality required that an individual should seek the good of others disinterestedly, and not for his own good, and that we should love others in preference to self-love, this could only be by the loving and acting of every one for another, or for others, or for all; and what would be the gain? For, in proportion as love and service are divided, they become weakened; and if every man justly love and serve himself, all will be loved and served. Just as if every man reformed his own conduct, all would be morally and politically corrected.

1277. Whereas, by inattention to self in these respects, and in place thereof, by vain endeavours to control others into right and good, counteraction arises, and although good be sought thereby, nothing but disorder and evil can ensue, as the revolutionary principle of public utility has evinced; and as the adoption of philanthropy as a motive (however good in its relation) has also, by degrading private charity, which is so self-ennobling to the heart.

1278. Had the Divine Author of our being formed us upon such a plan, confusion only could have followed; but, with all-seeing wisdom, He implanted in every breast *self-love*, so called, and made *rectitude,* or virtue, the condition of its accomplishment: commanding us Christians, and all men, to love *Him* with all our soul, heart, and strength, and our *neighbours* as *ourselves,* and to love even them that hate us.

1279. In fine, this principle of self-love, or self-regard, is universal. In *Politics,* it is that upon which nations professedly, and without hypocrisy, act toward each other, however deficient of wisdom and benevolence they may have been in their practices; and in *Religion* it is, finally, the principle of God in the creation and preservation of all things for His own glory and good, administered though it be with all His attributes of perfect power, wisdom, and benevolence: from the time " when He laid the foundations of the earth, He rejoiced in his works; when the morning stars sang together, and all the sons of God shouted for joy."

1280. This principle, then, exalts us to God, and is far above any principle of disinterestedness, public virtue, patriotism, or philanthropy, which are but as parts to the whole, however partially admirable or questionably sincere they may be, and however suitable under circumstances when inculcated in the way of discipline, are very inadequate as a doctrine, and very inefficient in practice or energy.

1281. The self-love, then, that we advocate, merges into, and identifies itself with, the love of God and of all that is His; and thereby it escapes from that gross and reprehensible passion which bounds itself within the narrow sphere of physical individuality.

1282. To exalt and enlarge selfishness to the utmost, even to universality, is to extend our morality, and to identify our individual good and interest with the good and interest of all. It is not, therefore, the selfish principle in man that is to be condemned, when, in truth, his error consists, through short-sightedness, in his not being sufficiently selfish. And, as to disinterestedness, it is an apathetic principle, which moulders in the individual too often resultlessly; which, neglecting the good of self, renders a man regardless of the good of others, however paradoxical or contrary to common opinion such doctrine may appear.

1283. If, upon the whole, Ethics be, as we have attempted to shew, pre-eminently a practical art, and if practicable through *right-doing* or virtue, then is he the best *moralist* whose organ, or moral system, renders it easiest to the individual to do right,—he the best *politician, statesman,* or *lawgiver,* who renders it easiest for men in community to do right,—and he the best *divine,* whose doctrine and discipline render it easiest for all men to do religious right according to the will of God.

1284. To multiply or magnify duties in either way, to render them difficult of faith or practice, or any how needlessly discouraging upon pretences of human expedience, is to impede virtue, frustrate the ends of Ethics, and subvert the great purpose of truth and religion. And if simplicity be a principal source and condition of excellence in the inferior, and of the beautiful in the fine arts, how much more must the perfection of these highest of all arts be dependent upon it!

1285. How wide an illustration presents itself here in the history of religious and political institutions, and in the moral practices of past times! Nevertheless, the ethical artist has to guard equally against the extreme whereby duties and difficulties are multiplied to the prevention of practice, and that by which the aim at simplicity and ease fails equally of duty and the attainment of excellence; for, according to the Attic proverb, fine works are difficult in every art: more especially so are they in moral art, to which all other arts should be subordinate.

1286. The first requisite of moral instruction and discipline, according to the doctrine we have inculcated, and with regard to practice, is to establish the indefeasible connexion of duty and interest; nor will it be enough that this be established in the abstract, but it must to the utmost be demonstrated that from every particular of right-doing there results a reward, and that in no instance whatever is a moral wrong committed, or perpetrated, that is not succeeded by a moral reaction or punishment.

1287. These are moral maxims, which we hold to be grounded upon an irrefragable basis; maxims which expose the immoral man, with ignorance and cunning, laying snares for his own punishment and that of others, through a gross and blind selfishness; and the virtuous man, on the other hand, by wisdom and discretion in all his acts, providing benefits for himself and others. And this doctrine squares with the best maxims of morals, and the truth of nature and experience.

1288. All of which evinces the great importance of the study of moral ends, in connexion with the neglected science of Teleology, that man may become the sufficient judge of his interest in all things, and more especially for determining on what his chief, and most permanent and true, interest depends; for it is, we repeat, the narrowness of selfishness alone that debases it.

1289. From these preliminary reflections upon the literary, practical, and prevailing systems of Ethics, and the true nature and purpose of Morals, we pass to the consideration of their theoretical and scientific relations, which respect principally the forms of Morals, Politics, and Theology; and if in this introduction we have roved beyond the just limits of our plan, we may plead the high importance of the subject, and that a well-grounded morality is pre-essential to, and the best security for, well-regulated politics and true religion.

# CHAPTER I.

## ETHICS.

1290. THE terms ETHICS and *Morals* denote, in their original acceptation, the science of human manners, or of the self-government of man; and the first of these terms has preserved its original sense, while the term *moral,* in its widest signification, has been opposed to the *material.* In the present sketch they are confined to a signification not quite so contracted as that of the former, nor so extended as the latter, which is nearly synonymous with the term intellectual.

1291. Intellect comprehends an active or practical power, or *will,* and a contemplative or passive power,* *consciousness* or *conscience,* which concur in the faculty of *understanding,* as they do also in the moral faculty, and all ethical science. Yet the will, or practical faculty, has been regarded as merely ethical, or moral, notwithstanding morals have been principally employed for the subduing of this faculty; and it involves the entire sphere of art, or doing, and the whole science of ends, or Teleology.

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* Pure mind, or intellect, has previously been regarded as an active faculty; but there is no action without reaction, no agent without a patient: these terms are, therefore, correlative and convertible.

1292. But Art divides universally into three primary genera,—the material or *physical,* the sensible or *esthetical,* and the intellectual; of which latter, the *ethical* or moral are principal: and as all art, act, or practice, implies design, end, or purpose, so the end or purpose of ethical art is *happiness* or felicity.

1293. Ethics involve, therefore, the theory and practice, *the science and art of happiness,* and may be regarded, in these respects, as a doctrine, or as a discipline: to the first of which belong *the forms and relations of Ethics,* which are the subject of present inquiry, although Ethics in themselves, belonging to active intellect or will, are more particularly allied to art and practice.

1294. The *science of Ethics* comprehends, then, the moral relations of all intellectual beings; and as the prime relations of all science are internal, medial, and external, so do the first divisions or genera of Ethics correspond to the same relations.

1295. First, on the one extreme, in external relation, is *moral science,* or particular morals, which regulate the moral conduct of individuals; secondly, in medial relation, is *political science,* which is of general reference, and regulates the conduct of man in community; and, thirdly, in internal relation, is *religious science,* or Theology, which is of universal reference to all intellectual beings, and to the fountain of pure intelligence and morality. We have accordingly divided Ethics into *Morals, Politics,* and *Theology,* agreeably to universal analogy.

1296. Although these have been properly treated of as distinct sciences, they are nevertheless dependent upon the same original principles which we have shewn to be the active or practical power of *will,* and the contemplative, controlling, passive power of *conscience* or *consciousness,** between which lie the *understanding* and *judgment* as guides.

1297. These are original powers of the mind which render a man at once dependent and free; a position of apparent contradiction, and so much opposed to common apprehension and the opinions founded thereon, that it is expedient, ere we proceed in the developement of these sciences, that we should briefly attempt what some have regarded as the hopeless task of reconciling this apparent discordance, upon which has been raised one of the seemingly interminable disputes of moralists and metaphysicians.

1298. That the doctrines of the *freedom* and *necessity* of human actions, or free-will and fate, should have hitherto divided the moral and metaphysical world thus irreconcilably, has probably arisen from the *absolute* sense in which these *correlative* terms, freedom and necessity, have been received and employed among polemics, and from the regarding the will as an *absolute* power, when, in truth, it is *correlative and concurrent* with consciousness or conscience, and understanding.

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* The terms consciousness and conscience, denoting the same power, are distinguished by the first being of *logical,* and the latter of *moral* import.

1299. Correlatively, too, necessity implies freedom; that is, a necessitating power, — *an original agent,* unimpelled and free: the first form of which is mind, or pure intellect, of which man partakes; and, without such *originality,* the free-agency of man is a contradiction.

1300. Without free-agency somewhere, there neither could have been a commencement nor cause of action, nor of thought; nor could any mutation of condition have in any case ensued.

1301. Freedom or liberty, in an intellectual and moral sense, is the power *to originate something unimpelled:* the first mover can therefore alone be free, but the will is always *determined:* to be undetermined is to have no will, and undetermined will is a contradiction in terms.

1302. The *will,* regarded as an original power, and as absolutely free, is a *cause* and not an effect; and we have shewn that all cause consists in concurrence, and that there is, therefore, no absolute or simple cause: neither is there simple or absolute will, but all will and cause are relative, and therefore the freedom of the will is relative, concurrent, and consenting,—conditional, and not absolute.

1303. Were it not for these relations, the force of argument would be conclusive on the side of *absolutism*, and the necessity of the will would be established against the conviction of consciousness; and if reason, or understanding and consciousness, be not in harmony in this respect, morality loses its authority, for relative free agency is the true principle of all moral, political, and religious responsibility.

1304. Into this absolutism of polemical metaphysicians it has happened, unfortunately for morals and religion, that moralists, politicians, and divines, have equally fallen; yet absolute liberty is as absurd, morally and politically, as absolute action is materially or mechanically; that is, it is action without resistance or a recipient, or action upon nothing: *absolute liberty* is, therefore, as untenable as is *absolute necessity*.

1305. Under the influence of the one doctrine, men sink into abject *fatalism*, or fall, by the other, into a more fatal *licentiousness*: happily, however, the almost universal reliance on the natural impression of consciousness in favour of the rational or relational freedom of will, has sustained, as the common sense of mankind, and helped to reconcile the relative freedom and subjection of human actions, while it has supported moral and political liberty upon that religious basis which it is the interest of man, and the true office of reason and science, to demonstrate.

1306. As the will is variously concurrent with, or determinable by, sense and conscience, it is but relatively the agent of the mind, and shares its agency in common with its other faculties, all its powers being co-essentially inseparable. Hence, *free will* and *free agency*, though agreeing with each other in some respects, are distinct things,—free will consisting in *election* of its motives, free agency in being *original power:* a power participated only by will, which acts not without motive of reason or conscience, or of its own accord, for spontaneous will is blind or insane.

1307. A want, also, of this distinction, may have been another fruitful source of ambiguity among polemics; and it is to the regarding of the faculties of the mind as absolute, and assigning to each distinct attributes, that is greatly to be attributed the incessant disputes and controversies of metaphysicians, and chiefly that concerning the freedom of the will: but all the powers of the mind are inseparable, and traceable, through consciousness, to its great original; and the true office of will is obedience to the dictates of understanding and conscience. Yet, although the will submit to be determined by reason and understanding, these are spontaneous, and not impulsive, and therefore the will is not determined by them necessarily, but of choice.

1308. It would appear, then, upon the whole, that the contending parties have argued equally in reason and in error, since *liberty* and *necessity* are correlative terms, and both of them attributes of the mind. Thus the will is *necessitated* or determined by motives; and it is *free* by an original power or activity to choose or *elect* its motives, while it is not absolutely either of these, since it is necessitated by its own constitution to choose or consent, which very choosing or consenting implies *freedom* or optionality: free will is, therefore, at once active and passive, or concurrent and relative.

1309. The true correlative antagonist of moral necessity is chance or contingency, and it has been proved, and is generally admitted, that *absolute chance*, or contingency, has no existence, which also negates its correlative, *absolute necessity;* and if there were such necessity, there could be no other god than fate, and atheism would follow in course.

1310. Thus this dispute merges into paradox and logomachy; and as man will continue conscious of, and confess, an external world, so will he also consciously confess an internal freedom in spite of the dogmas of polemics, and will assert his portion of free agency accordingly.

1311. By the moral relation of will man is *free*, by the same relation of consciousness he is morally *obliged*, and by the constitution of his whole being he is at once necessitated and liberated.

Hence the true ethical ground, both of his *duties* and his *rights*, moral, political, and religious, consists in a just reciprocation of his duties and his interests; or, abstractedly in virtue, as the matter or principle, interest as the instrument or means, and happiness as the product or purpose of all Ethics.

# CHAPTER II.

## OF MORALS.

### SECTION I.

1312. Of the ethical sciences, the first branch is Morals, by which term we here denote the science of the relations, rights, and obligations of man individually; and as the esthetical sciences are regulated harmonically, and the physical sciences chemically, so are the ethical sciences regulated morally.

1313. The *will* and *conscience*, or *consciousness*, of man, are the primary agent and patient of all moral effects, merit and demerit, or the virtues and vices; and between these faculties lies the *understanding*, to which belongs judgment, in which the intellectual agent and patient concur.

1314. Thus the will, understanding, and consciousness, are but one inseparable mind comprehending other faculties in subordination; and as the moral mind, or active will, receives its rules from understanding, such as is a man's understanding, will his moral character be also, and the reference of all moral principles is to conscience, or moral consciousness, as a basis. This is the Divine principle in man which connects Morals with Theology.

1315. We have before seen that the whole sensitive faculty, including the appetites and passions, are truly modes of *consciousness*, being the effects of the internal patient with the external agent; and as the *will*, or moral agent, concurs with conscience intellectually, so does it also concur with the passions, &c., sensibly in the production of moral effects: the will has, therefore, many determinatives. And herein we see the connexion of moral with sensible science.

1316. The *will* or agent of all moral effects is, then, that power by which man accomplishes all his voluntary actions in concurrence with *sense* and *conscience;* and we have seen that the internal agent, which constitutes the will in our present view, is a part, participant, or derivative of that Original Agent by whom the universe is actuated—that it is an original activity determinable only consentingly, and that therefore it is *free;* although not unconditionally free, but only in active concurrence with understanding and consciousness.

1317. This *free-agency* of man reason and science demand, and consciousness guarantees, as a foundation, wanting which moral merit and criminal demerit would be equally baseless, for vice, in such case, would incur no reprehension, and virtue lose all obligation. Of all the powers of man this is, therefore, the most essential and important.

1318. As the faculties and functions of will and consciousness are inseparable, they participate each other, however they may be distinguished. Hence the *Passions, which are modes of Consciousness,* are accompanied by *Desires, which are modes of Will;* and both these modes of passion and desire differ from their models, consciousness and will: the modes being sensible, the models intellectual.

1319. In like manner, the motives and modes by and in which consciousness determines will are variously of two classes,— sensible or intellectual, external or internal; the one physical or material, the other only purely modal, moral, or formal: and, inasmuch as these motives are determining powers, man is subject to *necessity,* either irrationally or rationally; urged, on the one hand, by sense and passion, and, on the other, by understanding and conscience: among which the *free agency* of the mind, or will, exercises itself by *election.*

1320. By the concurrence of will and consciousness, which are the agent and patient of morals, are produced, as effects, the moral habits, or *virtues* and *vices,* which are the forms, relations, and media of moral science; and as practical morals refer to ends, regarding the interest, purpose, or final good of moral acts, so morals, theoretically or scientifically, refer to the modes, forms, models, or relations of morals, in regard to the virtues and vices.

1321. In strictness of philosophic outline, morals participate three views or distinctions,—the first of which is *disciplinal,* referring to the principles and obligations, or duties and laws of morals; the second, theoretic or *scientifical,* referring to their modes, forms, or relations; and the third, practical or *technical,* referring to their final purpose and ends: for expedience and brevity's sake, however, we have cast the two former divisions together in the present sketch, there being no absolute separation of these distinctions, and each involving some consideration of the others, however treated of.

1322. In the moral world, as in the physical, action and reaction are co-equal; whence it arises, as a universal law of moral obligation, or duty, that *according to that which has been given, is that which is required or due.*

1323. If, then, *human agency* be, as we have inferred, derived from the Universal, man is bound, by an *original obligation or responsibility,* to render an equivalent for that with which he has been invested by the *Giver of All;* and hereby are the number and the nature of the principles and forms of morals, or the *virtues,* to be determined, together with their relations and ends.

1324. Accordingly, He has given to man, in external relation, *power*, physical, sensible, and intellectual, or moral; and the law of duty requires the equivalent of power, its full and proper use and regulation: and this implies, and is comprehended in *Economy*.

1325. Again: He has, in medial relation, bestowed upon him *inclination*, including appetite, sense, and passion; and the law of duty demands the proper use and regulation of these: and this implies, and is comprehended in *Decorum*.

1326. And, finally, He has invested man, internally, with intelligence or *intellect*, comprehending volition, understanding, and conscience; and the law of duty commands the full use and regulation of these, which involves the principle of all moral or intellectual ratio, responsibility, duty, truth, equality of right, reason, or relation, which imply, and are comprehended in *Equity*.

1327. Since, therefore, virtue, or moral habit, resolves into *Economy*, *Decorum*, and *Equity*, morals may be divided into three principal genera, or sciences, corresponding in relation with the universal relations of science, the external, medial, and internal: first, the science of Economy; secondly, that of Decorum; and, thirdly, that of Equity.

## SECTION II.

1328. First, therefore, of the first, or Science of Economy. To make the most of the *powers* with which he has been invested, is a matter not only desirable to, and the interest of every man, but it is, as we have seen, also his duty. It is this desire which prompts him to intend and commence so much and so many things, and thereby to do and finish so little and so few. Hence order and *economy* are essential to render power fully efficient, and to realise its purposes.

1329. To this end it is also necessary that he should distinguish the kinds, and estimate the extent of these powers; and that he should impose upon each no more than properly belongs to it, and no more than it can accomplish.

1330. Now, there are no other human powers than the *physical, sensible,* and *intellectual;* and of these the physical are first developed, and are subservient to the other two. It is necessary, therefore, that the *physical powers* should be first exerted in constructing a basis for the rest; that is, man must provide first for his necessary wants and well-being: but when he grasps at more than reason acknowledges in these respects, he neglects the obligations of his higher powers, and becomes *an ill economist* of the treasures of intellect and sense.

1331. Next to his physical lie his *sensible powers;* wherein necessity, too, demands somewhat of man, and inclination more: so much is therefore due to his appetites, senses, and affections as is essential or expedient to his existence, continuance, and innocent enjoyment. And here ought to determine the exercise of sensible or passive power; for when it is allowed to exceed these bounds, man grasps at more than *economy* justifies, degrades his physical and intellectual powers and means, while he saps the foundation, and subverts the purpose of sense itself.

1332. Finally, the *intellectual powers*, though last in order, are the first in dignity and importance of the powers subject to the *economy* or management of man, wherein necessity demands little, inclination more, and duty most of all.

1333. Physical nature and sense being exercised by man with the best economy, duty demands of power the rest for *intellect*, as that upon which depend the proper use of his *physical*, the due government of his *sensible*, and the moral excellence of his *intellectual powers* themselves: it is, therefore, no less an external advantage, and according to inclination properly directed, than it is a duty in man to exert and economise his intellectual powers,—not wasting them on objects of gross possession, nor in the mere enjoyment of agreeable feeling, but directing them principally to the more important concerns of a moral and intellectual being.

1334. It is here incumbent on the *economist* to estimate the quantity and kind of his intellect, and how wide a field of exercise duty allows to this power. To make the most of it, he must examine the chart of Knowledge, mark where she extends her dominion, view all her provinces, examine well the cultivation of her grounds, note the fruits and the failures of their cultivators, gather the former and correct the latter where he can, and cultivate the spots that lie barren. All these demands has economy upon intellect, and more lies in the power of every man to accomplish in the infinite field of intelligence than often, through false apprehension, he is aware of; and amply would it reward his exertion.

1335. In like manner, it is incumbent on the *economist* to estimate every thing according to its relative value and importance; esteeming the intellectual above the sensible, and the sensible above the material, he is not to make undue sacrifice of the former for the sake of the latter: and even in the election or rejection of things material and external, a similar exercise of judgment, and adaptation of relations, are requisite, whether it be for gain or against loss.

1336. Suppose the question be between the sacrifice or acquisition of *substance*, or of *time*, he must elect the most valuable under circumstances, or he will become an *ill economist;* and if he become an ill economist, he will be in danger of becoming a bad moralist altogether: for morals are founded upon credit in its widest sense, and in the discharge of our debts, or obligations and duties, of whatever kind they may be.

1337. From this eduction it is evident, that *economy* is the solid foundation of the moral virtues, wanting which, *decorum* and *equity* would be without support: it is likewise apparent, that morals may be interpreted solely upon the doctrine of *economy;* as they may be again upon that of *decorum;* while they are also commonly regarded as the mere rules of *equity.*

1338. Thus there is in morals the same reciprocal and co-essential relations that there is in other parts of the universal system of science, whereby the virtues become interchangeable, and literature susceptible of that variety of plausible doctrines which often confounds the inquirer: lamentably so, indeed, in morals, where wavering subdues the will and judgment, and delivers the most sacred concerns over to the good or evil disposition of unguided nature and passion, the influence of example, or the determinatives of laws and institutions.

1339. As *industry* is the first virtue of economy, and the fountain of moral and social worth in the individual, so is *indolence,* its opposite, the radical vice in man, and the source of poverty and degradation; and since it is by the suppression of this vice that both men and nations become great and prosperous, it is an evil against which it is their duty and interest to guard and endeavour, and that, above all, which claims in the early discipline of mankind, individual and social, the attention of the parent and the patriot. Add to which, that the errors and misfortunes of men, and the greatest crimes in society, are in general traceable to *idleness,* the parent of poverty.

1340. As riches and poverty exist in extreme conjunction in the advanced state of society, and where neither of them is there is content and sufficiency, those who regard concomitance as cause, have attributed poverty to riches; but riches are not the cause of poverty, as the envious have supposed, although without poverty there could be no riches: for what are riches and wealth but the excess of providence or plenty over poverty or want, affording to the rich provider the power to reward the labour of the poor and unprovided by supplying to him provisions and necessary goods more easily and abundantly than he could supply himself from nature? And what would riches be but valueless encumbrance, if every man were provident of his own wants and welfare? for then there would be no poverty, and riches would be without an object and without esteem.

1341. Hence, the poor have no other claim upon the rich than they have upon nature and providence; namely, the claim of industry, to exchange the requisite exertions of their own natural or acquired powers, for the natural and acquired goods, or riches, of accumulated industry and providence.

1342. There is, therefore, a natural correlation, or friendship, between wealth and want—the rich and the poor—not for alms, for they corrupt and debase industry, and are due only from benevolence to the helpless, but for mutual regard and effect. And as malevolence is the opposite of benevolence, malicious is the man who sets at variance a friendship so natural and expedient to the just reciprocation of labour and reward: for wealth and poverty, capital and industry, are artificial correlatives, from the due concurrence of which springs incalculable goods to society, which would be otherwise unattainable. Riches are, therefore, a resource beyond nature for multiplied man, equally advantageous to the poor and the possessor. Nevertheless, happy is the man who, having provided for his eligible wants, asks not the superabundance of riches, but enjoys a liberal content.

1343. In neither of the virtues is the moral and physical interest of man more concerned than in that of *economy* rightly understood; it is, therefore, fully entitled to the rank and consideration of a *cardinal virtue:* and hence the criminality of wasteful negligence, and the profligacy of wanton dissipation, both of which are contrary to nature and morality, injurious to society, and at enmity with *Providence.*

1344. Nor is *economy* less a *Christian virtue* than it is according to nature and morality, since He who, by his word alone, could feed the hungry multitude in the wilderness, ordered the gathering together of the fragments that nothing might be lost; comporting all his actions to the strictest and most correct regimen of an economy truly natural and divine, he exemplified it both by his words and acts: witness the parable of the Prodigal Son—the Virgins with their Lamps—the Servants and the Talents—the Light beneath a Bushel, &c.*

1345. There is this connexion, too, between general virtue and *economy*, well deserving of notice, that the indigence of the good man is abundance, compared with the affluence of the base; for much less of the goods of life are sufficient to him to whom we hence attribute *worth*, than to the vicious and licentious man, who, though abounding in wealth, we call *worthless:* reason and experience evince, also, that the affluence of the virtuous man is provident of the good of others; while the lavishments of the prodigal are but as the driftings of the winds—dissipating of goods in the pampering of vice or folly.

1346. And, in the highest of all views, the Providence of God is not for the improvident, but for the frugal and diligent man, rewarding all according to their work. Hence, Divine bounty lauds not itself by largesses to the improvident, nor degrades suppliants to supine dependence; but, according to the proverb, "God helps those who help themselves," it responds to the active economist, whose self-dependence is more secure than riches, and superior to independence: nor does true charity in any case belong to the ostentation of the almsgiver and the prodigal. We are deviating, however, into a fruitful and boundless field of particulars unsuited to the perspicuity of outline, but which is, perhaps, in some measure expedient, on account of the novelty of our distinctions.

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* Matthew, v. 15; xxv. 1-14. Mark, xv. 18.

1347. It has been remarked, in singular coincidence with our scheme of the virtues, that "the man who loses his character by violating a trust, he who ruins his health by yielding to his desires, and he who squanders to-day his means for to-morrow, are all equally deficient of *economy*;" so that, as has also been said with much plausibility, "vice is at bottom only a bad calculation."

1348. To conclude: *economy*, although commonly confounded with *parsimony*, is that virtue through which all great and good things are accomplished — that by which alone the man of small means may become greatly *generous* without ostentation, the man of large means eminently bountiful, and nations powerful and munificent: *economy* is, in fine, the great source whence *Providence* dispenses universal benevolence, and is in its proper sense that conduct and management which is the foundation of all order, regulation, and law, and the true basis of all the virtues.

## SECTION III.

1349. Secondly, of the SCIENCE OF DECORUM, the second branch of Morals, by which is denoted that regulation, or economy of the *inclinations*, which conducts to their natural and proper ends: accordingly, that conduct of the *appetites*, *senses*, and *passions*, or affections, which reason deems to be unnatural or intemperate, is criminal, indecent, and void of *decorum*.

1350. Now *decorum*, although it has reference to things *external* and *material*, as in all matters of order, ordonnance, and arrangement, &c.—and to things *internal* and *mental*, as in disciplining the mind to gravity, levity, virtue, and forbearance, &c. —yet is the principal moral reference of decorum to things *medial* and *sensible*, comprehending the conduct of the appetites, senses, and affections, or passions.

1351. *Decorum* allows, then, with regard to the *appetites*, that they should be licensed so far only as nature, temperate enjoyment, and reason require: all inordinate indulgence of the appetites has, accordingly, been deemed vicious and indecorous. Hence, we attribute profligate and disgusting indecorum to gluttony, drunkenness, and lust; and to the latter, when unnatural, the utmost odiousness of crime, &c.

1352. Again, with regard to the *senses*, decorum enjoins us to present to them such objects only as excite agreeable and virtuous feelings, and that all such actions and objects as excite disgust and vice be removed from them. Hence personal decency—hence genteelness—gentleness or mildness of manners, which is the *medium of decorum*, and medial in morals and manners—and hence, lastly, the refinements of sense in the moral, social, and sacred exercise of the sensible and polite arts, and whatever is beautiful and becoming in morals.

1353. Finally, with regard to the *affections*, *decorum* demands of us the *love and admiration of nature*, and all natural things, according to their relations; *the love of man*, to which belong conjugal, filial, and fraternal love, love of country and love of kind, or friendship, patriotism, and philanthropy; and decorum calls for piety, or the *love of God*, to whom decoral rites are instituted, and temples raised and decorated.

1354. But when the *affections* are engaged unworthily, unnaturally, or in undue degree, decorum and moral propriety are violated: hence, excessive favouritism, and the devotion to lapdogs or pets, and to the vicious and worthless of mankind, are moral offences against right reason and propriety; while intemperate love, friendship, patriotism, and philanthropy, overlay duty, and are indecorous and injurious to friends, the community, and the species: but, above all, the love and idolatry of false and imaginary gods, accompanied by immoral rites and sacrifices, are offences to *decorum*, and the extremest violations of decency.

1355. To this virtue belongs especially the affection of *gratitude*, and whatever is *graceful* in morals and manners: such as generosity or *gratuitous* favour, and *graciousness* or polished benevolence. Hence the antient Greeks erected temples to the *Graces* in every city, that they might be honoured by acts of *gratitude* and *grace;* hence the decorum of apostrophizing heaven with gratitude at our meals is aptly called a *grace;* and hence the ordinances of mercy with which sovereigns honour, or morally and gratefully decorate happy occasions, are called acts of *grace*. Related to this virtue is also the *Christian grace* of humility spoken of by the apostle,* so gracefully expressed by Christ himself, "*Learn of me, for I am meek and lowly of heart;*" and such, finally, is Almighty benevolence, called *the grace of God*. In all of which becomingness and decorum are implied, and they spring from the same root and analogy. In like manner we might instance of all the passions as subject to the rules of *decorum*.

1356. Aristotle availed himself of the reciprocal convertibility of the moral forms, to which we have alluded, in constructing his own highly plausible and edifying system of Ethics, by reducing all virtue to *temperance*, or the observance of the *mean* in moral actions, which had been obscurely indicated by the *golden mean* of Pythagoras; and the keeping of this mean in view is the best guide to *decorum* and politeness, at the same time that it is one of the best general rules for moral conduct, more especially in youth.

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* Romans, xii. 3.

**1357.** Aristotle exhibited, therefore, great judgment, through this convertibility of the moral genera, in his " Nichomachian Ethics," which were addressed to his son, by treating all the virtues as species of *temperance*, or the observance of the *mean*, which is, according to our view, *decorum;* for youth in particular, and mankind in general, are prone to *extremes* in thought, passion, and action: and his design was synthetical, disciplinal, and adapted to particulars and practice, as the analytical or doctrinal method is to theory, science, and universals.

**1358.** *Decorum* is, indeed, strictly *the morals of the mean*, no less than it is *the mean in morals:* it is also *the morals of good taste and polished manners*, well suited to a polite and attic people like the antient Greeks and modern French; as the stoical system, which reduced all virtue to *fortitude*, was to military nations, like the Roman and American-Indian; or *prudence and economy* to a calculating, commercial, and laborious people, like the Dutch; and as a greater range of moral system, in which *equity* or *justice* predominates, is characteristic of a more general, free, and philosophic people like the English; or, finally, as a variously mixed morality is of a more mixed people, such as the Anglo-American. Not, indeed, that any virtue is peculiar to any soil, but prevalent only by predominance; and, as to the vices, they become popular, in a similar manner, by inversion.

1359. This predominance of the virtues which distinguishes national characters, qualities, and destinies, is yet more remarkable in individual man, and prevails throughout his nature, determining and determined by even his form and structure. The Physiognomist discovers these moral characteristics and fortunes in the face of man, and some have found them in the hand. Palmistry has had its day, and so has Physiognomy. The Phrenologist points them out upon the skull—the Artist observes them in all the forms of the body—the Anatomist detects them in the various vital systems, and throughout his whole organization — the Physician prescribes from structure, habit, and symptoms. But the Man of fine sense and observation views them in his gestures and demeanour, while the Intellectual Moralist finds them in his acts, sentiments, and judgments; and all these with more or less evidence and truth. The whole subject abounds with interest, and the field of its analogies is endless.

## SECTION IV.

1360. The third and last department, in this distribution of morals, is the SCIENCE OF EQUITY, or equality of right and duty, which goes to the principle of all moral responsibility, according to which the rational mind is bound to adjudicate a moral equivalent for whatever is received — to do as it would others should do—to render unto Cæsar the things that are Cæsar's, and unto God the things that are God's: thus extending equity to the whole of Ethics, moral, political, and religious.

1361. With reference, however, to Morals in particular, EQUITY requires, on the one extreme, that we should not deprive others of their *external* goods, wealth, power, or possessions, by selfish and injurious means — that, in *the mean*, we should not offend wantonly, or for self-gratification, the feelings and sensible enjoyments of others — and that, on the other extreme, we should not be subject to illiberal, prejudicial, unequitable control, the *internal* free-will and conscience of others, by enforcing partial laws and opinions of our own.

1362. Thus it appears how *equity* pervades the whole system of Morals, and why they have been commonly regarded as a doctrine of equity only, and more vulgarly and degenerately as the rules of mere polity and custom in the adjudication of external possessions.

1363. As economy is related to *power*, and decorum to *inclination*, so is equity related to reason or *intelligence;* for, without such relations, they have no objects whereby they can be realized.

1364. As the *external* is subordinate to the *medial*, so is power subordinate to inclination; and as the medial and external are subordinate to the *internal*, so are both power and inclination subordinate to reason and will.

1365. When man acts by the determinative of power, he acts *tyrannically;* when he acts by the determinative of inclination, he acts *mercenarily;* and when he acts by the determinative of reason and will, he acts *freely*. Thus, through uncontrolled power, he becomes a tyrant; through indulgence of inclination, a slave; but through reason and will only is he free.

1366. The purpose of the external is the beautiful and useful, and to these ends *power* and *economy* operate; the purpose of the medial is pleasure or the agreeable, and to this end *inclination* and *decorum* operate; and the purpose of the internal is happiness and the good, and to these ends *reason* and *equity* operate.

1367. It has happened, accordingly, that Morals have been variously interpreted as a *science of beauty*, a *science of pleasure*, and a *science of happiness;* and so coincident are these in relation, that they may figuratively stand for each other when the thing signified is not confounded.

1368. Economy, decorum, and equity, are each *active* and *passive.* Thus *prudence,* or frugality, is the passive virtue of economy, as *temperance* is of decorum; and *fortitude,* or magnanimity (to bear and forbear injustice), is the passive virtue of equity or *justice.* Yet the purely passive in morals is best denoted by the term *patience* as a virtue, and the purely active, in like manner, by the term *perseverance;* and these are virtues of fortitude, which belong reciprocally to all the other virtues.

1369. It is apparent, then, that of the cardinal virtues of the antients, justice resolves into *equity,* prudence into *economy,* and temperance into *decorum:* call, therefore, economy, *prudence;* decorum, *temperance;* equity, *justice;* and *fortitude,* or magnanimity, will coalesce with them all as firmness to do right ourselves, and forgiveness of our wrongs from others. Yet fortitude or courage, of itself, is no genus of virtue, it being mere *moral strength,*—for right or for wrong, for good or for evil, expedient, and often more military than moral.

1370. It has not been for the sake of innovation, or love of singularity, that we have substituted the terms economy, decorum, and equity, for prudence, temperance, and justice; nor because we regarded the former as unexceptional, but, having first adopted, we have since retained them, because the latter terms are confused in their colloquial use, and equivocal in their literary acceptations: and, in strictness, we did not change the names of the cardinal virtues, but, having arrived at their coincident moral genera by a new course, we had given them the names in common use which appeared best to indicate their natures, before we had recognized their coincidence with the distinctions of the antients, and before we had examined their moral systems.

1371. Not only are economy, decorum, and equity, convertible terms, and interchangeable,—for virtue is virtue, under whatever form it may appear,—but the antient cardinal virtues coincide also herein by resolving, in like manner, into each other: thus fortitude and valour belong to him who conquers himself; temperance, to him who governs his inclinations; prudence, to him who controls his powers; and justice, to him who rules himself according to equity; while morals, as a whole, resolve into self-government.

## SECTION V.

1372. Again, of the SECONDARY and compound virtues, in which the primary are diversified under a great variety of denominations. Thus, *economy* and prudence unite *with equity* in common honesty,—whence the adage, "honesty is the best policy;"

*decorum* concurs *with economy* in concinnity and becomingness; and *equity* joins *with decorum* in a gracious manner of doing justice. In the same way are produced the many tertiary and complex forms of morality.

1373. The universal principle of harmony which we derive from Harmonics as its root, which is demonstrable in Chromatics, and prevails throughout Physical and Sensible Science, belongs also to the Intellectual and Moral, and may be transferred to Ethics as a general law; according to which, *there can be no true harmony or accordance among the virtues in which either of the three primaries is wanting, and the perfect harmony thereof depends upon such a subordination of the whole, that* EQUITY, *according to its name, should equal and duly rule the other two, of which* ECONOMY *should be subordinate to* DECORUM. And this rule may be extended to every variety of moral harmony.

1374. The want of any virtue is, therefore, a vice; and there are redundancies, as well as deficiencies of the virtues, which are sources of moral discordance. It is equally true, that there are also compositions of the virtues and vices, in morals and manners, in which immoralities and rusticities are resolved and reconciled in particular characters and communities, as discords are resolved in music, so as, upon the whole, to produce moral and social harmony, and justify Providence from evil.

1375. Hence, the diversity of the virtues adapt them variously to the diversity of professions, characters, and classes of men: thus, in regard to the four liberal professions, so called, of the Soldier, the Physician, the Lawyer, and the Divine, *fortitude* is appropriate, by predominance, to the military profession; *prudence*, to the legal; *temperance*, to the medical; and *justice*, to the divine, to which morality more principally belongs: for courage is essential to victory, temperance to health, prudence to conduct our affairs, and justice to all moral and religious duty.

1376. Again, of the dependent and labouring class of society, *economy* is the principal virtue; of the independent and polite ranks, *decorum* is the distinguishing virtue; and of the ruling and religious orders, *equity* is the moral law. These appropriations are not, however, exclusive, but participable by all classes, ranks, and orders, according to various predominance and subordination, analogically.

1377. Accordingly, the cardinal virtues of the lowest and most useful classes of society,—the labouring and producing classes,—are *industry*, *sobriety*, and *honesty;* which are only modes of *economy*, *decorum*, and *equity*, and correspond to the cardinal virtues of the schools, *prudence*, *temperance*, and *justice*.

1378. Thus, morality and virtue are the same for all men and all classes, differing only in variation of terms denoting variation of relations; and, of the above three orders of terms, we have employed the second for their greater compass as general terms, in which they comprehend the disciplinary and practical import of the first order, with the doctrinal and theoretical reference of the last.

1379. To be *sober, honest,* and *industrious,* is, then, in eligible terms, the highest moral reputation of the labouring, serving, and producing classes; as it is in the loftier and unproductive, or sensible and ornate classes of society, to be personally *accomplished,* decorous in behaviour, or *polite* and *honourable* in conduct: for virtue or qualification in this, as in the unproductive classes of vegetal nature, consists characteristically, not exclusively, in the appearance, the *beauty,* and the blossom; while, in the producing and effective classes, it consists in *utility,* and the fruit. Nevertheless, there arises hence a compensation, which is also analogous to vegetal existence, for therein, also, the blossom and the fruit are co-essential; and so are the social classes, as dependent and independent.

1380. But above these social classes, of which the first is *material* and the second *sensible,* there is a third and highest, or *intellectual class;* and of this class the *ethical,* and of the ethical the *religious,* and of the religious the *Christian,* have a like analogous order of virtues: the first of which, in internal relation, is *faith,* belief, or knowledge; the second, in medial relation, is *hope,* or conscious desire; and the third, in external relation, is *charity,* benevolence, or good-will,—which, in pure

Christian morality, comprehends the duties of man to *himself,* his *neighbour,* and his *God;* and by these links are Morals connected with Politics and Theology.

## SECTION VI.

1381. So much, by way of outline, concerning the first principles and relations, or science of *Morals,* which involve an infinity of particulars appropriate to a practical treatise in connexion with its art and moral ends, of which more hereafter. From the present inquiry, however, there arises this important universal corollary, or moral maxim,—*that we exert our powers with* ECONOMY, *indulge our inclinations with* DECORUM, *seek knowledge as a guide to* EQUITY, *and act in all cases according to the best of our* KNOWLEDGE, INCLINATION, *and* POWER.

1382. To be perfectly virtuous or good will require, therefore, perfect knowledge, inclination, and power; and hence it is a duty that we improve these faculties: and in moral art, as in other arts, we can but *approach* perfection at an infinite distance, and

> "There is none good but ONE,"

and that ONE is the universal perfect model, according to which the true moral artist will shape his works.

1383. Accordingly, in nature,—the manifestation of that *One*, and the fountain of the true forms of art,—we discover power, benevolence, and wisdom: whence, first, providence with *perfect economy*, without waste or destruction of substance on the passive extreme, or waste of time on the active extreme,—for every change of substance is but a new production, and nothing stands still,—and this principally in physical nature; secondly, *perfect decorum*, with inclination to natural and proper ends, principally in sensible nature; and, thirdly, *perfect equity*, according to universal knowledge and wisdom, throughout all nature. Throughout nature, therefore, as in man, the prime source of morals is intelligence.

1384. Hence He, the Author of nature, who acts without resistance, acts indefatigably, and therefore to Him *indolence* is unknown. He, again, who makes nature, acts therein for natural ends only, with consummate propriety, beauty, and grace, and to Him *indecorum* is unknown. And He, who adjusts all with perfect wisdom and equality in number, weight, and measure, and for an end absolutely good, is too pure to behold *iniquity*.

1385. *Knowledge* and *conscience* are synonymous in Morals; and to act according to the best of our knowledge, is to act according to conscience: hence the variety in the consciences of men is conformable to the variety of their knowledge or intelligence, or to their minds as formed by education, experience, and habit, although the foundation of conscience is the same in all men.

1386. But understanding improves more than habit, and habit impedes the understanding more than the understanding improves habit; whence the importance of early education and moral discipline, or of subjecting the will of youth to the understanding of age: and hence the due allowance to be made for a bad or neglected education, and the obligation incumbent on a good one. Hence, also, the moral impulses of youth, whether of man or society, belong to discipline, honour, and virtue, regarded as principles, but the morals of manhood belong to reason and reward as their purposes; not absolutely, indeed, but with subordination.

1387. When men think and know truly, they think and know alike, for truth is identity. There is, therefore, also a unity of conscience among men; and as man has a natural bias to truth and identity of knowledge, so is there a like bias to right or virtue, and identity of conscience. Hence, truth precedes good; and hence, also, conscience is no further uniform and unerring than is our knowledge: the perfection of the one depends upon that of the other, *and to be good and happy it is necessary to be wise.* Therefore has Solomon truly said, " Happy is the man that findeth Wisdom. Length of days is in her right hand, and in her left hand riches and honour. Her ways are ways of pleasantness, and all her paths are peace."*

1388. And if knowledge and wisdom are essential to virtue and happiness, then is all vice, or wickedness and misery, the offspring of ignorance and folly, as may be rendered apparent through all moral relations. Thus, *prodigality, or want of economy*—the commonest of vices—may be attributed to ignorance; for in no instance will any one knowingly employ what is not essential to his process, operation, or end, nor neglect that which is essential to himself or others, but through ignorance: perhaps some may say—or idleness; but idleness is want of economy, and he is never lazy or negligent who is not ignorant, or uncognizant that neglect of what is essential to be done will inevitably multiply that labour and cost which he wishes and hopes to avoid.

1389. Again: it is the same with *indecorum* of any kind; for he will never be guilty of external indecency who is not ignorant that it will terminate in disease, suffering, and disgrace; nor will he be sensibly indecorous or uncivil but through ignorance that he will thereby disgust, destroy the admiration, esteem, and pleasure he seeks in sense, and bring evil on himself instead of good; nor, above all, will he practice the indecorum of the mind, for this is mental disorder and ignorance itself, and immorality.

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* Proverbs, iii. 13, &c.

1390. And, in like manner, *iniquity*, or inequity, to which all criminality, including all vice, belongs, is folly: for he will never be unjust who sees the true policy of honesty, he never cruel who knows that it profits ill, nor he ever ignorant, for ignorance is itself a vice, who knows that ignorance, vice, and crime, are destructive of his aim—his happiness.

1391. Thus the whole man is subject to his understanding, and such as is the understanding is the character also; nor does it argue against this doctrine, that the naturally good, or well-disposed and innocent, are sometimes ignorant and weak-minded; for, not having tasted of the fruit of knowledge, they act by the instinctive bias of unerring wisdom, or by good and early induced habit, or the discipline and example of others, although they do so without merit or moral endeavour.

1392. Yet so natural is knowledge to man, that he has often assigned to it the place and precedence of virtue; for man has less aversion to error than to ignorance, and is more indignant at the reproach of folly than of crime. Hence historians, in the paucity of knowledge, have substituted fables for facts, and liars assert falsehoods for the mere vanity of knowledge—the reputation of intelligence.

1393. All this is to be understood of knowledge, in its strict relations; nor does it imply any contradiction that men of much knowledge are often vicious, knowledge being power for good or for evil; and the Almighty Friend, and the universal Enemy, of mankind, have equally and truly assured them respecting the fruit of the tree of knowledge, that in the day they ate thereof their eyes should be opened, and they should become as gods, knowing good and evil. The wise Creator had so ordered it, that man's first transgression should have its bane and antidote; and that man of knowledge and acquirement is, nevertheless, insensate and tasteless, a bad calculator, a poor logician and a fool, who prefers the former to the latter, by employing his powers for evil instead of good: nor does vice ever begin but where knowledge ends, or is deficient.

1394. Men are not only moral beings as respects good or virtue, but also in regard to evil, wickedness, or vice. There is, accordingly, in every man, a double character in these respects, by which he has a capacity for good or evil, as he may happen to be morally or immorally determined: so that the best man is qualified to become the worst, as the worst might become the best. Hence, again, the high importance of moral discipline.

1395. And as all faculties are improved by discipline and exercise, and deteriorated by disuse and neglect, so the evil, no less than the good faculties and propensities of human nature, may be overcome by inaction and disuse; whence arises one of the most important of moral duties incumbent on every man not to urge, irritate, and excite, but to soothe and allay, disarm and discourage, ill-temper, evil disposition, and vicious inclination in others, as well as in himself,—and to excite, keep alive, and encourage good temper, inclination, and virtue, or good will universally.

1396. To conclude: *equity*, the last and principal of the virtues, according to moral analogy ruling the others as an archeus or key-note, is the beginning and basis of *Politics*, to which science we proceed.

# THE ANALOGY

OF

# POLITICS.

# CHAPTER III.

## OF POLITICS.

### SECTION I.

1397. POLITICS, or the science which teaches the relations, rights, and obligations of men in community, are the second, or general ethical science, according to which the will and passions of men congregated in society are regulated, or governed by laws founded on their equal rights, or equity. Politics are, therefore, the Ethics of the species, as Morals are of individuals; and both of these have their foundation in nature.

1398. Of *Natural Politics*, the examples are abundant in the three regions of nature—in the migratory tribes of the air, which congregate for a general purpose—in the finny tribes of the ocean, which traverse seas in shoals periodically, with government and general purpose—and in the gregarious tribes of the land, which congregate politically for mutual safety and defence.

1399. Such politics terminate not in these principal genera of animals, but descend to various orders of insects, if not even to the animalculæ. Need we instance, in either division, the rook and swallow, &c., of the air—the salmon, mackarel, herring, sprat, or minnow of the waters—the horse, kine, sheep, deer—the otter—the beaver—the ant—or the bees, so celebrated for their almost British polity? But to man alone belong Politics as a science.

1400. Political society is domestic or particular, national or general, and international or universal among mankind; consequently, the science of government, or Politics, divides naturally into three distinct branches or sciences: first, domestic government, or *Economics;* secondly, national government, or *Polity;* and, thirdly, international government, or the *Law of Nations.*

## SECTION II.

1401. ECONOMICS, the first branch of Politics, teach the government of a family, or domestic society; and this commences in its simplest form, when the offspring of the human pair become the subjects of domestic government.

1402. Of this pair, the *male* is qualified by strength of mind for legislation, and is thence by natural right the ruler of the family, while he is empowered by superior bodily strength to provide for its wants, to protect it, and at the same time to enforce his authority, if vice or crime should render such force necessary or expedient; and herein we discover the origin of *legislative power*.

1403. As the legislation and provision of a family are the proper occupations of the mind and body of the male, so the milder office of distributing the provisions, and executing the laws of the male in the family, belongs to the *female*, who is peculiarly qualified by the tenderness of her affections to dispense the one, and to moderate the rigour of the other; and herein lie the origin and office of *executive power*.

1404. The *offspring* of this establishment are its proper subjects, its natural servants, till, fitted themselves for rule and self-government, by power, progress, and education, or discipline, they conjugate in like manner, and constitute other domestic societies or fraternal families: whence the foundation for *Civic* or *popular government*, and for servitive or popular power, whose office is reactive, or *subjective* in a political sense; and the moral and political relations of Master and Servant, Sovereign and Subject, are essentially those of Parent and Child in Economics, and their reciprocal duties are the same, and cannot be omitted by either without mutual injury and violation of their natural obligations.

1405. Of these three economic offices, as respects their end, and in regard to ends in general, there belong to the popular or *servitive* *office*, in external relation or materially, the strength, industry, or economy, and the utilities and beauty of the house; to the *executive office* of the female belong, in medial relation sensibly, the decorum, amenities, and pleasure of the house; and to the male, or *legislative office*, belong, in intellectual relation, through equity, rule, and order, the well-being or happiness of the house.

1406. The *Civic State*, or popular society, is therefore but a *federation*, or family of families; and the principles of national government, or regulation, are the same as the economic: if not male, female, and their offspring, it must at least have their *legislative*, *executive*, and *subjective* functions. Accordingly, legislation belongs naturally to the male, or to men, in all cases: and the first of these offices is paternal; the second, maternal; and the last, filial or fraternal.

1407. Thus all the subordinate domestic societies spring from the first family,—all own one common origin and common head in their original parents: hence springs naturally the *Regal Office*, whether it be called patriarchal, magisterial, judicial, presidential, or monarchical; and this office and authority is equally represented by every head or President of a state, however it may have been first established. Accordingly, we still address the King and Queen by the parental titles of deference and respect, Sir, Sire, Senior, or *Father*,—and Madame, Dame, Dam, or *Mother*; and, in like manner, the Sultan is called the Grand Signior, or Grandfather, &c.

1408. As the Father of the first family advances in years, his active faculties wane, while those of his offspring increase to fulness and maturity; he is not on this account deprived of precedence, but his sons become the counsellors of his age, and assist in the legislative duties whereby the economy or polity of their family or families is regulated: hence the natural origin of *National Councils, Senates,* and *Parliaments.*

1409. Thus, while the power of the patriarch is limited, the head and stability of the state are preserved with reverence. Accordingly, in the Chinese constitution of state, the most remarkable in the world for uniform stability, the extreme principles throughout appear to be those of parental reverence, and a characteristic aversion from change of habit, form, and institution.

1410. When the Father of the first family dies, the Elder Son of the family (if he have no incapacity) has the priority of right and qualification, by strength and experience, for the paternal office; which, therefore, belongs to him naturally: and herein lies the right of a just *primogeniture.*

1411. The elder son of the elder branch has this right virtually in perpetuity; while the younger sons, and younger branches of families, have a like hereditary right of council and control: whence the true origin of the *Patriciate* or *Nobility*, as hereditary seniors, signiors, senators, lords, or counsellors of the Patriarch, Genearch, or Monarch, in the adult state of society; and hence, also, the origin of *Popular Councils*, whether called a *National Assembly*, a *Congress*, or *House of Commons*, &c., as the *Representatives* of the younger branches of Families and Societies.

1412. As society becomes more extended, the energies of paternal government decline, and, influenced by local and other circumstances, it naturally separates into distinct communities, each of which regulates its own internal order and economy; and hence arises the *Diversity of Nations*, with the variety of their forms of polity.

1413. The relation of these to one original stock is still apparent; and to provide for their reciprocal rights and intercourse, as branches of the Human family, is the universal office and origin of the *Law of Nations:* law, naturally founded on their equal rights or *equity*, and subject to the same forms of polity, as those which govern families and communities, and resulting from a like federation, or confederation of families.

1414. Such appear to be the *natural* order and progress of society from the economic or domestic state to the national, and such also, conversely, is its *artificial* institution or construction (for nature is the true fountain of art). Accordingly, in every numerous assemblage of men, for whatever purpose congregated, there is ever a total confusion, until, by some sort of common consent, a head, or *President* is invested with *monarchical* functions, and *enthroned as Chairman*, Chief, or Master of the ceremonies.

1415. Then, ere the business and purpose of such an assembly can be conducted to its proper issue, a *Committee*, or council, of its most talented, experienced, and therefore most honoured members, must be chosen, and promoted to become *Counsellors and Assistants to the Throne or Chair*, to constitute a regular and orderly association, and to fulfil its offices. These constitute the *aristocracy* of this assembly, its *Nobles* and most illustrious Offspring.

1416. Finally, the remaining individuals of this association are its *Commons*,—the original and ultimate referees of the whole constituted for a united purpose,—a Brotherhood and Commonweal. When such individuals are too numerous for deliberation in *general assembly*, their office is supplied by a deputation of *Representatives*, freely elected by the whole lawfully qualified community of commons, or *Constituents*.

1417. For to the various members of this domestic society, as to all society, God and nature have given an absolute diversity of powers, talents, and virtues, no individual being in all respects, or in any, the perfect similitude of another; and these faculties are for exercise upon the substances of nature and the gifts of heaven, in the various attainments of matter, sense, and mind: whence the origin of *personal rights and property,* which are the great objects of moral and political laws, for which all government is instituted.

1418. Thus it appears, in a synthetical view, that the natural elements of political society are *Constitutional,* as politically denominated; and the British Constitution has sprung out of the wisdom and tendency of nature, and the freedom of the community to follow its dictates, self-protected, and by nature protected from external domination.

1419. The moral constitution, too, like the political, is the same for a family, or nation, as it is for the individual: thus, that domestic society or family is morally perfect which is provided with *economy,* conducted with *decorum,* and governed with *equity;* and so it is pre-eminently with nations.

1420. Economics, and economy too, each first in its department as science, have the same root and relations; and as individuals decline morally through the want of the virtue of industry and economy, so do families: and a nation begins to sink politically from the moment when indolence is regarded as honourable, and industry and economy as a disgrace.

1421. It is a principle of Nature, of Politics, and of Morals,—it is also a religious principle,—that nothing should be wasted; for in nature, the work of God, there is neither waste of substance nor waste of time, every corruption therein is a new production, and nothing whatever stands still: so in society every power should be brought into action. We see, hence, how economy belongs especially to *Economics*, and how they extend throughout every branch of Politics, and constitute a foundation for the whole according equally with nature, science, and sacred writ: in all of which destruction and the destroyer are abhorrent, while *Providence* is but another name for God.*

1422. The intimate relation of Morals and Politics involves a wide field for discussion, wherein might be usefully shewn in what manner the various morality of men influence their political conduct,—and, reciprocally, how in particular political principles and practices influence private and domestic morality; while each may reflect an extensive illustration upon the other: of which we will only instance the force of republicanism in depressing that parental respect and authority which loyalty holds sacred and confirms. This force, in Economics, is called *Dulocracy*, or the domination of servants and children.

1423. And, with especial regard to Economics, which link Morals to Politics, nothing merits more attention than the power and effect of female rule, or *Gynocracy*; of which every family bears evidence, favourable or unfavourable, according to the prevalence therein of intellect or sense: the latter subjecting the mother to her children, and occasioning a Dulocracy; the former colleaguing her with her espoused in parental rule. Hence the importance of enlightening the female mind by education, and of impressing it with moral law, and thereby changing the too ordinary position of son and husband; for the female executive—wife and mother—thus refined by education and moral discipline, will coerce the son rather than the father, and indulge the husband rather than the son, and thereby acquire for herself the reverence and regard of the son, and the love and admiration of the husband, in place of the contempt and hatred of both, to which she has been but too often the victim; by regarding which, moral duty, and domestic law and harmony, would be promoted, women become more amiable, men morally better, and the matter of political society ameliorated and improved.

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* See Sect. 1345.

1424. De Lolme complained, that, preceding his time, men, instead of looking for the principles of Politics in their true sources,—the nature and affections of mankind, and of those sacred ties by which they are united in a state of society,—had treated the science as they did natural philosophy in the time of Aristotle, by continually recurring to occult causes and principles, from which no useful consequences could be drawn.* But if politicians were then too *metaphysical,* we may now complain that they are become too *physical;* and, instead of deducing Politics from the natural and moral relations of mankind, they draw their principles from the matter of society, and regard every thing therein as emanating from the individual and physical elements of a state. If there was obscurity and absurdity in the one extreme, there is gross delusion, danger, and degradation in the other.

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* De Lolme "On the Constitution of England," chap. xix.

## SECTION III.

1425. As that which we have in the commencement termed POLITY, or NATIONAL GOVERNMENT, is medial in Politics, and is that to which we owe the name, a more immediate inquiry into this science will perhaps better develope the various general forms of polity, or the existing constitutions of states; more especially so since the progress of universal Politics, which we have traced from the individual, exhibits the natural, and not the artificial, structure subsisting among men and nations, disjointed, diversified, and lost to the remembrance of an original stock and natural constitution.

1426. Hence the sane practical politician or statesman governs a community more according to what it is contingently, than according to what it would have been naturally and truly; yet even in the confusion of political practices, some traces of nature and universal relation are preserved, affording a clue to their true principles and improvement.

1427. To *comprehend* any thing, we must ascertain the *extremes* by which it is bounded. The extremes of political government are the government by an individual, being an absolute monarchy or *Autocracy,* and the government by the whole of a community, being a universal republic or *Democracy;* which are, indeed, conceivable, but impracticable and vicious extremes. Accordingly, a Monarch must depute at least an executive, as a people or Republic must also a legislative power; and the mean of these extremes is polygarchy or *Aristocracy.*

1428. Of these extremes and mean is constituted the mixed government, being that which we have already traced upward from nature, which may be called an *Analocracy,* because it comprehends the three in subordination, and is a form which, discarding the *absolute* in Prince and People, renders every part relative to, and harmonious as, a whole, or Analogous; the opposite of which is *Anarchy,* in which all are governors and none obey the laws, and this is identical with the vicious extreme of democracy.

1429. Again, conversely, among men congregated without organized government, or in a state of wild republicanism, every individual is naturally his own defender and avenger, the framer and executor of his own laws. This is called the *State* *of Nature,* and differs from anarchy in being a preparation for, and not a dissolution of government.

1430. The nearest approach to this state existing is that of the Aborigines of Australia; but, since the entire state of nature is the state of *absolute liberty,* equality, &c., it can exist only for *an individual in a desert,* and is not political; for no sooner does an individual enter into community with another, than liberty is abridged by the establishment of some law of intercourse and conduct, and equality ceases: unless, indeed, we can imagine them of one will and of equal powers. Proceeding hence, the individual will is required to yield to the general will and to superiority of powers; and the general will is required, in like manner, to yield to the universal will, which is the religious extreme.

1431. The next conceivable state, and first political organization of a community, is that in which a congress of men concur to defend and avenge their reciprocal and common rights and injuries; a state in which each individual has equal claim to legislative and executive powers: and this is *Democracy* or republicanism, being one step removed from the state of nature,—or, on the dissolution of an organized government, it is a change toward anarchy.

1432. If *Democracy* has, on one extreme, a *physical state* or *state of nature,* conceivable but not practicable, it has, on the other extreme, a *moral* or *Divine state* imaginable, in which every individual governing himself, and doing no wrong, all law becomes extinct, and all legislation needless. This is the perfect *ideal* state in Politics, and coincides with the highest extreme of political government in the kingdom of God, or Theocracy, wherein all human authority is submerged in the Divine.

1433. Without such ideal state and union of moral and political perfection, man must be held incapable of perfect *liberty*, with the absence of all political distinction; and in proportion as society approaches this state, man approaches physical, sensible, and intellectual perfection. As, however, this is a state to which society can never attain, or approach near to, without *liberty*, liberty and virtue are coessential. It is apparent herefrom why art, science, and whatever elevates the human character, have ever advanced with moral and political freedom.

1434. Man, naturally ambitious, ever aims at distinction; in the savage state, he seeks distinction in arms and gaudy decorations—in an advancing and cultivated state, his chief distinctions lie in arts and learning—in a commercial state, in riches—in a luxurious or sensual state, in title, privilege, and ostentation; whence he revolves again in a circle toward the savage state: but as neither of these states subsists alone, so is neither of these distinctions sought otherwise than through predominance.

1435. But in a free and moral state, wherein arbitrary and sensible distinctions are not falsely esteemed, men are propense to intellectual and natural distinction; hence the mighty influence of freedom upon art, science, literature, and morals: in all of which for a man to merit the applause of his compatriots is the noblest distinction, and an elevation to which all ranks look up.

1436. Hence, also, is apparent why despotic rule, and institutional honours, when unconnected with merit, are hostile to manly dignity, and true nobility and art, by holding up to emulation rewards which are too often accessible to slavish sycophancy, and whatever corrupts a state and degrades the true honour of man. Nevertheless, these distinctions are rarely attained without some merit, nor, without merit, retained with honour; and there is no question or denial here of the utility of institutional honours in the imperfect moral state, which alone renders political rule necessary to men, and will so long as men are men: but, in a purely moral and imaginarily perfect state, man can acquire honour and distinction through merit and virtue alone, for of such are the nobility of God.

1437. Opposed to Democracy is that construction of society in which the whole of a community is subject to a single individual, and this is called *Autocracy* or Monarchy; a state in which uncontrolled power,—legislative, judicial, and executive, —is lodged in the hands of an hereditary Prince or Chief, the representative of the common Father or Sire of a people, and the fountain of veneration and honour, in whom the individual and community regard their defender and avenger, to protect their rights and avenge their wrongs.

1438. Between these lies *Aristocracy* or Timocracy, or that form of polity in which the three powers of a state are exercised by a plurality of individuals, who are in general hereditary Nobles or Chiefs. This being the government of a few, as distinguished from the many of the community, is also called an Oligarchy.

1439. Such, again, are the three primary forms of polity, of which the examples are numerous and notorious; yet wherever either has prevailed, some mixture of the others has been found: thus, aristocracy and democracy have each its President or Chairman, and the Monarch has his Councillors.

1440. Hence arises a great variation and composition of these forms or estates. The Regal state and office even, the most absolute of the three, is not necessarily filled by an individual, but is occasionally substituted by a Regency, Council, or Directory; and it may occur hereafter, in the vicious progress of Politics, to place the executive power permanently in a Great Council of a Nation, delegated and chosen equally by the other estates: and this also would require its Chairman or Chief, its King of Kings.

1441. The artificial forms of government are compounds, prone, like every thing in nature, to return to their elements through change and corruption; and among these the most democratic, the furthest removed from the primitive form, is most disposed to revert, first, to the government of an overbearing few, and then to end in autocracy and despotism, having the shadow only of the paternal office, in the form of a military chief. But, in a well-organized government, there should be preserved with equal care the two powers of stability and change, according to circumstances and progress; for the political safety of a state depends upon both. Political society is like the ocean, which, notwithstanding its saltness, would corrupt, were it not agitated by winds and currents: it does not follow that calms and fair breezes are not beneficial and beautiful, nor that storms and tornadoes are not appalling and destructive.

**1442.** It is not to the purpose of this sketch to point out the advantages and defects of each primary political form, nor to shew minutely in what manner they compound secondarily, &c., and harmonize in the various constitutions of states and empires, for this is the business of an especial treatise: it is sufficiently obvious, however, that the principle of harmonious composition which we have so often adduced already, prevails in Politics; so that *there can be no truly harmonious constitution of society in which either of the three primary forms is wanting, and that there may be a great variety of* *harmonious governments under a various subordination of these primaries.*

1443. This principle, although borrowed from Harmonics, is that upon which, beginning at first principles, the variety and harmony of the universe depends: if the archeus or key be of external relation, *the harmony is physical;* if of internal relation, *it is moral, or ethical and political;* and if it be between both, *it is sensible or esthetical.*

1444. Despotism and Slavery are the vicious extremes of every form of polity, and are naturally constituted for each other. Accordingly, in the rise of political states, Slavery is invariably united with some sort of Tyranny: such it was in the Feudal system of old, and such it is in the political Slavery, united with domestic Tyranny, at the foot of Freedom, in the new world. And, in the fall of states, Despotism is as invariably combined with some kind of Slavery; and such was the military Chieftainship and Conscription of Napoleon. But the perfection of political relations belongs, in all cases, to a balanced mean, adverse to all vicious extremes.

1445. We will, therefore, further advert only to that state or constitution of society called, by way of eminence, *constitutional,* in which the three forms are united harmoniously in a natural key, and called the Mixed form, or *Constitutional government;* wherein, it is generally admitted, the respective advantages of the primary forms are combined, their defects reciprocally compensated, and their vicious extremes avoided.

1446. The Constitutional Government, then, or ANALOCRACY, is that compound form in which a Democracy principally holds the legislative power, whereby it frames the laws according to which the Monarch, or principal executive, governs the state, between which is placed the Aristocracy, in medial relation, and partakes of both; while these reciprocally control and support each other.

1447. Some approach toward this had been made by the Greeks; and even the Roman republic had its *King* elected by the people,—its *Senate*, which was his council, chosen by the people,—and a general assembly of the *Citizens*.

1448. But, of this most perfect form of polity, there has been no example so celebrated and illustrious as that of the *British Constitution*, under which rational freedom has grown and flourished in unprecedented perfection—a constitution which has endured all storms, and triumphed, in all its struggles, over political evil—ever rising superior to error and obloquy, destined to ends nobler and more beneficial than the famed empires of Greece and Rome, the remotest posterity will regard it as the triumph of Politics, the ornament of Europe, the palladium of the world.

1449. Every constitution, or form of government, comprises in some way an active and passive or a *legislative* and *executive* powers, between which lies the *judicive* or judiciary office. By the British constitution, these powers are essentially distinct and coessential, establishing the political maxim of a *divided legislation,* in which all orders participate, —a *united executive* under a supreme head, and an *independent judicature* judging every offender by his peers or equals, and, therefore, equitably.

1450. The balancing of extremes in Politics is one of the marked excellences of the British constitution, wherein the *legislative* power which emanates from the people, and the *executive* which belongs to the crown, have between them a *judicive* power at once dependent on, and independent of both. The extremes of these latter powers are again balanced and divided, the *judges* being appointed by the throne, and the *juries* belonging to the people; between which exists the *censorial power* of a FREE PRESS, to which all are liable and exposed, but which is itself also amenable to the laws.

1451. Each of the foregoing forms of polity divides, also, in three primary views analogically, into departments referring to objects of a physical, sensible, and intellectual nature.

1452. Of these departments, the first, and that of greatest necessity, administers to the *physical power* and economy of a state; the second cherishes its *honours, arts,* and *literature;* and the third provides for and maintains its *education, morals,* and *religion.*

1453. The *physical* government of a state falls naturally into the hands and disposal of the powerful and rich, distributing itself among the people in some proportion to the interest or holding they have in the commonwealth; while it is also in the power of every individual of a free community by industry and economy to increase his wealth, and his power or influence in society.

1454. That an *Esthetical* department of Government is essential to the progress of a people, appears in the Associations of Arts, Sciences, and Literature, founded by the public spirit of individuals or the patronage of princes; and government here falls naturally into the hands of those members of society who attain eminence in these respects.

1455. Finally, the *Ethical* department, Priestdom or Church, designed to discipline the minds and teach morals and religion to a people, belongs naturally to the learned and pious. And that organization, and those principles of freedom and control which best accomplish the political ends of the general state, are equally essential to the proper purpose and success of each of these departments, to which belong severally the power, honour, and happiness of a people.

1456. According to this view, the best organized governments have divided into Legislative and Executive departments in the one respect, and in the other they have resolved into *Church* and *State*, together providing for the exercise of their religion and power; while Arts, Taste, Literature, and Science have been, for the most part, dependent on the caprice of fashion, the bounty of private individuals, or the patronage of princes: whence Associations, Foundations, Colleges, Chartered Institutions, &c., as substitutes for this middle department of society.

1457. In practice, however, the political department is that to which the attention of a government is almost exclusively confined; and as it is also the chief object of political rule, law and power are principally directed to defend the rights and avenge the wrongs of individuals and the state: first, of individual, or *private rights and wrongs;* secondly, of individuals with the community, or *public rights and wrongs;* and, thirdly, of the community with other communities, or *national rights and wrongs.*

1458. If, therefore, we take a more general survey of human policies, we may plainly perceive, that in the rudest state of society men have been governed by *physical force* alone, or the dominion of the strongest.

1459. In a more advanced stage of society, the *government of sense* is resorted to, when the pageantries of state commence, hopes and fears are excited, and all the passions are summoned in aid of government; in which, also, religious enthusiasm is made to act conspicuously.

1460. Men are, then, governed more by

the imagination and opinion than controlled by strength; but, in the most cultivated state of society, man requires to be governed through universal principles morally, or by his *reason and understanding*.

1461. But if opinion and sense have hitherto governed the world, should mankind advance intellectually, principle must in the end govern opinion, and political decision be yielded to the *moral majority*, and not to numbers, or the *physical majority* of a state; and happy is the government in which these coincide: for it is not in all cases that the moral majority is with the few. It is the want of this conjunction that produces unequal laws and a disordered state; for when laws are equal, good, and well administered, none have cause of complaint, and in proportion to this vicious inequality of laws is the discontent of a people, and above all with regard to food; for such inequality, being of vital and universal importance, produces a unanimity of discontent which terminates in the subversion of its cause, or the destruction of the government.

1462. Then, only, will the rules of reason and right, justice and virtue, exercise superior influence in society, when man shall become individually qualified for self-government; which last stage of political progress implies the utmost cultivation of human powers; and of these, principally the *intellectual*. Nevertheless, under whatever circumstances or conditions human government may exist, some participation of the correlative departments will be observed, and is necessary in subordination to political harmony in every stage and state of society.

1463. It accords with the political doctrine herein delivered, that to the first man, Adam, belonged in subordination the three ethical offices of paternity, the economical, the political, and the sacerdotal,—moral, political, and religious,—of *Father, King,* and *Priest;* and accordingly these offices were inseparable in the early ages generally, and among the Hebrews in particular: and they are held inseparably in the regal office of the British Analocracy at this day, and belong also to the head of every family.

1464. Whether man does now again approach to the paradisiacal state and golden age of intellect, or whether, by unduly tasting of the tree of knowledge, he is again to fall through the temptation of sensuality beneath the iron scourge of brute force to perform a new procession of the species, is for Him who Is, and who knows, the beginning and the end of all, to determine.

1465. Nothing herein advanced, with regard to the relations and forms of Politics, is to be understood in an absolute sense,—the absolute having no place in our philosophy. Whatever form of government may be deemed abstractly the best, may not, therefore, be the best, practically, for every country: much in such respect depends upon the people, much upon times and circumstances, and much even upon locality.

1466. Accordingly, in a confined country, and among an ignorant and savage people, a simple monarchy is better than any other form of polity, as the government of the parent is best in infancy; while, on the opposite extreme, a mixed republican constitution is better suited to an intelligent people possessing an extensive country, by promoting the spirit of enterprize requisite to the establishment of grand institutions, and the spreading of such a people over an immense territory.

1467. By excluding private, individual, and family aggrandizement from such a country, public spirit is supported, and the emulation of a people turned from self-aggrandizement to the aggrandizement of their country, public greatness becomes private honour, and national pride with such a people takes precedence of family pride.

1468. Something of this sort has taken place in the Federal State of North America, founded on the institutions, and fostered by the spirit and intelligence of a British parentage. In such a wide field for social improvement, it is highly favourable, too, that honour belongs to activity and talent combined. But when the object of its early institutions shall have been accomplished, and it shall have recorded many great and distinguished citizens, heads of families and powerful parties will arise, and an Aristocracy will predominate in the state, which will conduct in the end to Analocracy, with a limited Monarch at the head; unless, indeed, foul revolution and grasping ambition, subverting reason and moral experience, should establish a military leader, succeeded by despotism and darkness.

1469. Left to its natural course, uncontrolled by external causes, every country will attain instinctively that form of government which is best suited to its exigencies; but despotism cannot exist in an enlightened and moral community, nor can liberty be preserved among a people ignorant and degraded by vice and immorality: and as to the corruptions of government, a well-constituted polity, like true religion, contains within itself essentially a principle and power of reform.

## SECTION IV.

1470. The last of the primary divisions of political science is that which takes cognizance of national rights and wrongs, or international law, or the GOVERNMENT OF NATIONS, or universal polity; and, notwithstanding this is the most desirable institution for society, as that alone by which the permanent advantages of political association can be ensured to the individual and species, few practical traces are hitherto noticeable in the history and progress of man, of a political constitution of states, or a confederation of nations provided with powers, legislative and executive, for preserving their peace and mutual welfare; yet it is evident upon the foregoing principles, and from the demands of reason and science, that a universal government, vested with power and authority to defend the rights, avenge the wrongs, and preserve the balance of nations, depends upon the same principles of polity and equity as those of individual man: there are, accordingly, certain recognized international laws by which states affect to be regulated, but they are powerless and without an executive.

1471. A community, or confederation of Nations, is, however, susceptible of the same modes and forms of government as a community of individuals. Accordingly, the world may be ruled by a single nation *Autocratically*, or imperially; or by an alliance of the principal states, *Aristocratically*; or by a representation of every people in council, *Democratically*: the vicious extreme of all which, and of all the most unhappy for mankind, is that of which the world has witnessed some partially successful, but vain endeavours, in which the Ruler of a single realm, favoured by the genius of war, and supported by the barbarism of the species, has attempted the Despotism of the World.

1472. Nor can the world be freed from this danger, nor national policy proceed beneficially for mankind, until the pure principles of individual morality are introduced into the transactions of states. Nor will Politics much improve in practice till the ministers of states, and the members of public assemblies, make it a principle not to do that as a body which they would not, and ought not, to do as individuals; nor to do that in the dark they would not avow in the light. Nor, finally, will a people long hold together in political union, among whom morals cease to be esteemed; for dissolution inevitably terminates the course of dissoluteness.

1473. We have thus run rapidly over the ground of Politics, and traced their relations from particular, or domestic government, to universal government, or the *Law of Nations,* in which the reciprocal duties and interests of all men concur, subordinate only to the *law of God,* or universal *Theocracy,* which is suited only to the perfection of mankind, and is final in Politics, and connects them with Religion or Theology, to which we proceed.

# THE ANALOGY

# OF

# THEOLOGY.

# CHAPTER IV.

## OF THEOLOGY.

### SECTION I.

1474. The last of the Ethical Sciences, and the pinnacle of all science, is RELIGION or THEOLOGY, it being the science of the relations of created intelligences with the Self-subsistent Intellect, or of human consciousness with the Divine, or of Man universally with GOD.

1475. It has appeared, accordingly, that all *religious effects depend upon the concurrence of the will of man with the will of God;* an inquiry, therefore, concerning the true signification and conception of Deity, is the first essential of Theology; next to which is the inquiry into the nature of Man, and his relation to God: to which succeed the forms of the science, and the logical modes through which man seeks the knowledge of God on the ground of science, in harmony with divine revelation.

1476. Without such first inquiry, the chief object of religion — *The Supreme Being* — though universally acknowledged, must be very inadequately and variously conceived; without the second, man and his relations to God must be as inadequately and variously understood; and, without the last, man can have no clear comprehension of religion, and no certain or sufficient foundation for his faith.

1477. Hence the innumerable objects of adoration, — the various denominations under which the Deity has been worshipped in different ages and countries, — the strange rites and many forms of Theology, and the endless variety of religious creeds and opinions.

1478. If we inquire into the signification of the various names and epithets by which the *Supreme Being* has been designated, we shall find it resolve in them all into that originality and universality through which we attain to God, and beyond which there is no conception. Such are the *Almighty*, the *Omnipotent*, *Jehovah*, the *Universal Essence*, *Eloim*, the *Creator*, &c.

1479. This originality and universality is also implied in the relative names of *Father*, *Lord*, &c., and is also expressed in the terms *Omniscient*, *Omnipresent*, *All-bountiful*, &c., by which we denote the attributes of Deity; and when men ascribe to God, *Power* in his principles, *Wisdom* in his means, and *Goodness* in his purposes, &c., these terms are understood *universally* and underivedly.

1480. In like manner, all the incommunicable attributes of God,—His self-subsistence, absoluteness, unity, simplicity, eternity, immensity, immutability, indefatigability,—for He only is either and all of these,—are understood as original, universal, and final.

1481. As the *Most High,* we denote Him *above all;* and when He is called *The Eternal,* he is but designated by the attribute of *Time universal,* not only as *eviternal,* but as *sempiternal,*—both without beginning and without end. We may conclude, hence, that the term God, in its most extensive and comprehensive sense, is synonymous with *Universal,* or *Original, Final,* and *Supreme Being.*

1482. Again: the highest and most comprehensive of all conceptions to which the mind of man can be elevated by the powers of understanding and philosophy, is the *totality* of things internal and external,—that in which *all* is united, or wherein *all* things exist,—the *Subject of all objects,*—the *Universal Essence,*—the *sole and Supreme Being,*—the bound of all conception and consciousness,—the Spirit of all.

1483. But this is *the God of reason and science,* who, like *the God of revelation,* "in whom we live, move, and have our being," is *One,* and indivisible: the sovereign Lord of the universe, who created *all* things by His power, preserveth *all* things by His providence, and ruleth *all* by His wisdom.

1484. We have seen that all things, individually and collectively, resolve into three incorporeal principles or essences, each absolutely and reciprocally essential to the others, and that there is nothing conceivable independent of this co-relation: the Universal self-subsistent Being, the God of reason and science, like the God of revelation, is, therefore, *Triune,* yet not three gods, but *one God;* and every natural object becomes a symbol of Divinity—of that *triune Eloim* who created light, darkness, and the elements by His word, and formed the world and man in His own image, from His own being, of His own will, out of nothing!

1485. We have seen also that, in a physical view, the Elements of Matter are powers essentially immaterial, and that the physical universe resolves into *One All-powerful Agent,* the source of all other powers, and of all existence, and that the physical and material world is subordinated to the moral and divine.

1486. And we have also seen, between the physical and intellectual, or material and moral views, that throughout the world of sense, all the loves and aversions of animate nature are ruled by *One All-connecting harmony and love.*

1487. And, finally, we have seen, in an intellectual view, that thought is a *unifying* process; and that, in whatever way man attains knowledge, it is by this process, and by *uniting* his thoughts; and that the result of thought, in every course, is a *unity;* and that, in fine, the last attainment of all thought is an absolute *Universality*, One intelligible Intellect, an all-comprehending Consciousness.

1488. Thus, in the natural course of the mind, the pure idea of ONE LIVING GOD is the *last* attainment of human knowledge, utterly inconceivable in the early state and progress of man, and unattainable through any course of idolatries, till manifested in mercy by Divine revelation, of which it stands in Holy Writ sublimely *first*: — "In the beginning God!"*

1489. Of Essences, Elements, and First Principles in themselves, we can know nothing, since they are the conditions of knowledge itself, but only their effects and attributes: hence, the attributes and effects of the Universal Essence can alone be known; and the God of reason, like the God of revelation, is *ineffable, and incomprehensible in essence*—the Being of being.

1490. In universal principles, we comprehend *all powers*; in universal relations, *all wisdom*; and, in universal purposes, *all good*: and these are the prime attributes of God. Thus, God has goodness, which *is* the best; wisdom to *know* the best, and power to *do* whatever is best and fittest to be done: and these connect the moral and physical attributes of God in one, philosophically and universally. And, in like manner, we universalize all other attributes of the Divinity, to whom nothing can be truly ascribed with limitation.

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* Genesis, i. 1.

1491. The God of reason, then, is that infinite and sole Absolute Being, — the triune Essence of all, — which the universal conception of the universal system points to, but does not make known, otherwise than symbolically through his works and energies.

1492. Hence, conceptions of God and his attributes can be acquired in intellectual, sensible, and material nature alone: whence arise the personification of God and the Divine Hypostases and attributes, whereby vulgar conception is assisted, and at the same time inclined to idolatry, when unsupported by the juster and more expanded views of universal science and Divine revelation.

## SECTION II.

1493. Again: the idea of a God is so intimately connected with the consciousness of man, that he no sooner reaches the conception of universality, or of all in thought, than he falls transcendently upon the supernatural and Divine; where, having neither power of reason nor perception, he flounders back into sense, and animates natural objects imaginarily with the attributes, and principally with the *power* of a God.

1494. Hence superstition and idolatry; which, in the maturity of the human mind, are overcome by the force of reason, and men return to nature: whence, again, advancing with cultivated reason, man attains to Divine truth as confirmed by Divine revelation.

1495. The pure spirituality of religion must, however, be totally inaccessible to the human mind in its rude, unassisted state, when a material idol can alone satisfy a superstitious instinct: for superstition is the instinct of religion, and fanaticism is its madness. And even in a more cultivated state, this instinct will merely invest its idol with higher attributes; or, idolizing the attributes and powers of nature, it will establish imaginary gods: which, in their turn, give way, by the force of reason and philosophy, and man, individual and social, attains to the purer conception of moral power, and an intellectual and spiritual Deity.

1496. Hence, according to Sacred Writ, the Creator and God of Israel first manifested Himself, indulgently to the grossness of the people, under the old dispensation, chiefly in His visible, almighty, physical power, from the creation of man to the establishing of His church. Yet the chosen leader of His people, Moses, the son-in-law of the Chaldæan priest, learned in all the learning of the Egyptians, and His prophets, He inspired with the knowledge of His more spiritual attributes,—declaring Himself the great I AM,—too subtile for mortal eyes, —whose face no man can behold and live. And, under the new dispensation, He manifests Himself in man as the invisible God of Truth, ethical, purely intellectual, and spiritual. "God is a Spirit: and they that worship Him must worship Him in Spirit and in Truth."*

1497. The power by which every part of the natural system may be traced to universality, conducts, also, to Deity: whence, every science and every part of nature has its God; that is, a contracted view, or image, of the universal relations or principles which depend upon the universal Essence.

1498. Such, accordingly, was the God of the mathematicians, the *Monas,* or One, of the Pythagoreans and Platonists, mathematically attained to; and such was, and has been, the ground of various other partial and imperfect doctrines, and conceptions of deity, and the multiplicity of gods: of whom the antient Mexicans acknowledged two thousand; and the Greeks, according to Hesiod, no less than thirty thousand.

1499. To run to the universal even in morals, and to personify and deify virtue as the Stoics did, and to make her the sole end, is still idolatry, although it be a less gross and mischievous idolatry than the worship of material images; and anything short of the all-comprehending universal conception, affords but a partial and defective image of

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* John, iv. 24.

God: all other gods are idols of human construction, and their doctrines idolatrous and destructive.

1500. Nor, in fine, does the universal conception of the universal system itself afford any other than the most comprehensive image or symbol of God, and by no means a knowledge of his *Essence;* for "none can find out the Almighty to perfection."

1501. Yet such, also, is the case of the physical *Elements,* which are no otherwise knowable than in their effects or energies; but as we want not evidence of these unknown principles of matter, so God, the universal principle and *Substance of All,* does not leave himself without a witness: reserving his essence alone as the boundary at which reason and consciousness yield their powers, in humble acknowledgment of their source, their being, and their end.

1502. Such is the God of pure spirit and truth, sought intellectually, and through Himself revealed, —who manifests Himself from the beginning,* in His plurality, His trinity, the eternal Creator of the elements; declaring, according to the prophet Isaiah,† "I form the *light*" [active material element] "and create the *darkness*" [passive element]; "I make *peace*" [moral harmony], "and create *evil*" [discord]. "*I, the Lord,* do all these things."‡ And again: "*I am* the Lord that

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* Genesis, i. 1.

† Exodus, iii. 14. John, viii. 58.

‡ Isaiah, xlv. 7.

*maketh all things*—that *stretcheth forth the heavens* alone—that *spreadeth abroad the earth* by myself."* "I am the first, and I am the last, and beside me there is no God."† In all of which, God declares Himself, absolutely and without reserve, the physical, sensible, and moral efficient of the universe. "But," says the son of Sirach, "we may speak much, and yet come short; wherefore, in sum, He is all."‡

1503. It is not to be inferred, from our previous argument, that we can have no real knowledge of God, since universality is as real as individuality, and comprehends it; nor can this be inferred, because we know Him only through His works and attributes: for if this were a test of nihility, or of ignorance, then could we have no knowledge of any thing; it being the effects, attributes, and relations, and not the essences of things, by which they can be known.

1504. All that can be argued against the reality of our knowledge of God on this ground, is of sensible reality only, and not against His spirituality, which is the foundation of all reality, and of which the reality is therefore most certain.

1505. Thus, human reason, by a last effort of analysis, demonstrates, through necessary analogy, a Being and Consciousness beyond itself, as the ground upon which itself and all things recline, and attains to the sublime Idea of a God! But when the mind, over-soaring the bounds of that analogy upon which reason and knowledge depend, affects to enter this region of superintelligence supernally and transcendentally, and to discover therein hyparxes above essences, eons or first fountains, gods, demi-gods, demons, heroes, and hosts of spiritual orders and intelligences,—beings of whom (however credible through analogy a subordination of superior powers may be) the mind can have no genuine knowledge but by miraculous communication or supernatural faculties; or when, in a lower flight, the mind supports faith upon fancy, we may reasonably pronounce these conceptions to be the supersublime productions of an often highly cultivated and poetic, but yet of an overheated and unbridled, imagination.

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* Isaiah, xliv. 6.

† Idem, 24; and xlv. 12.

‡ Ecclesiasticus, xliii. 27.

1506. Such are the reveries of fanatics and enthusiasts, whether Pagan, Christian, Jew, or Mahomedan,—such the divinities of the Brachmans, the Magi, the Hierophant, the Druid, the Gymnosophist, &c., whether priests, poets, or philosophers, —and such appear to be the creeds of some of the latter Platonists, Gnostics, Cabalists, Chaldaists, Behmenites, Swedenbourgians, Southcotians, &c.: with all of whom God, or the gods, are the idols and images of imagination and sense, and phantoms of superstition and bigotry.

1507. Yet there is opposed to these, on an opposite extreme, a bigotry of infidelity even more contemptible and blind than that of the superstitious devotee; since, grounding itself on physical chance or mechanical necessity, and being as slavish, if not as superstitious, it affects not zeal, but liberalism and freedom: but then it does not over-soar; it grovels beneath that reason, which it idolizes as the dog does his master.

### SECTION III.

1508. Thus far, the method of our attempt, although somewhat discursive, has been to trace the Idea of a God to universality, through names and attributes philologically,—through the faculties of the understanding categorically and logically,—through existence and consciousness ontologically, and throughout the whole analogically. There yet remains, however, to our inquiry, the *God of nature,* to whom man attains, through experience and physical analogy, or naturally; for thus, also, he arrives at something necessary and underived, the ground of all cause,—eternally progressive,—indefatigable, because irresistible,* &c.:

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* The Eternal Power, who wills all things of his own substance, is resisted by nothing; that which nothing resists, operates all things *without effort;* and, so doing, is eternally and unboundedly *indefatigable.* "The everlasting *God,* the *Lord,* the *Creator* of the ends of the earth, fainteth not, neither is weary."[1]

[1] Isaiah, xl. 28.

and all this, because to negate is to affirm, and nonexistence is inconceivable.

1509. There is, therefore, a *Universal Relative Being*, eternally generating and producing,—the beginning and great end of all,—whose energies and acts appear to be, throughout nature, the developement of intellect and being, circulating or returning to its immortal source, and thence regenerated, and sent forth in renewed energy and production, analogous to the ethereal circulation by which the material universe appears to be produced, actuated, and sustained physically.

1510. This view of Deity terminates also in spirituality, and thereby escapes from Pantheism, which makes of nature a physical god; and it identifies itself also, in the end, with Revelation: whence arises the powerful influence of the literature and teaching of the Christian Physico-theologists* in leading minds through common sense, taste, nature, and science, to the portal of pure Christianity. "*Holy, holy, holy,*—thrice holy,—*is the Lord of Hosts: the whole Earth is full of His glory.*"†

1511. Such is the God of nature and the external, to whom man also attains, through intrinsical reason, analogically: for if *consciousness* and *existence* are identical in essence, and their primary effects are alike mutually causal or concurrent, then are they not only identical in essence and original, but they are also coessential. There is, therefore, an Original Being, the source and sustenance, or substance, of all consciousness, relation, and existence; and this Being is the God of reason and nature,—and such also is the God of Scripture and of Christian theism,—the God, of whose universal essence man has the same evidence as he has of his own individual essence, soul, or consciousness: nor do we assert, nevertheless, that the universe is God, for his Essence lies beyond all, the cause of all.

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* Butler, Paley, Derham, Hay, Harvey, Watts, Sturm, &c.

† Isaiah, vi. 4.

1512. There was a similar spiritual tendency in the theology of the purest and sublimest of the Greek philosophers who theorized upon intellect, and whose doctrines have been infused into Christianity, and accord remarkably with the more spiritual evangelism of St. John, the approved disciple of Christ; and also with the Christian philosophy and apostolic doctrine of the most learned of the apostles, St. Paul.

1513. The Pythagoreans deified numbers: but the Platonists deified the whole of science: both, indeed, refined upon the material gods of idolatry and the sensual gods of their mythology, by sublimating their divinities above Intellect and the Intelligible, into the Scientific,—nearing, but missing, the pure spirituality of Christianity.

1514. Philosophy, then, upon the whole, requires and demonstrates, in perfect accordance with the most antient Christian creeds, *One universal God in Trinity, and Trinity in Unity*, of three coessential, incorporeal subsistences, modes, forms, personalities, or hypostases, whose essence is ineffable and transcends comprehension, and who exhibits Himself everywhere to the pious philosophic eye, infinite and eternal, omnipotent, omniscient, and omnipresent,—universal in power, wisdom, and goodness,—indefatigable, indigent and ignorant of nothing, and incapable of evil or of error.

**1515.** Such also, in nothing differing, is the God of Revelation, who has declared Himself the Great Existence,—the " I AM,"—the Sole Existence. " Beside me there is nothing unknowable;" for " no man shall behold my face and live." Thus, even to the most favoured, as it was to Moses, the view of God is posterior only, or through his works and ways, and not by prior or immediate vision.*

## SECTION IV.

**1516.** The last legitimate efforts of reason and sane understanding are the demonstrating of the dependence of man on God, and that knowledge in man is every way bounded by ignorance,—an ignorance preceding knowledge, and an ignorance beyond knowledge; so that the last attainment of understanding is a knowledge of this ignorance: all attempts beyond which are but the ravings of folly, or of heated, disordered, unbridled, wild, wicked, fanatical, or enthusiastic imaginations, excited sometimes, it is true, by the sublimities of nature and science: so connected are the extremes of ignorance and knowledge!

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* See Exodus, iii. 14; John, viii. 5, 8.

1517. Since, then, *God*, the universal intellectual being, is unknowable in essence, and knowable only through necessary analogy, it follows that the particular intellectual being, *Man*, has an essence related to the universal, also beyond the confines of knowledge, which essence is called the *soul or spirit:* whence the essential union of man with God, — his triple consciousness — his free-agency, and his moral and religious obligation and dependence; and hence, also, the efficacy of pure prayer, by which man unites and converts himself to God, through conformity to his will.

1518. Regarded, also, in his universal relation, *Man* has the same triple nature in which the universe is founded: he begins in matter, proceeds to sense, and thence to intelligence, when his ethical relation commences, and his consummate nature requires that his individual will and action should harmonize with the will of God, or universal will, as the essential condition of moral harmony or happiness.

1519. Thus, philosophy demonstrates also that Man is formed "in the Image of God,"—triune in his personality,—coexistent with and from God; whence his religious duty to God is imperatively that of a part to the whole; and, to become a participant of universal good, it is essential that his individual will should comport with the universal will of God: while his progress from matter toward the perfection of intelligence points his hope to *immortality*, which the certainty of his consubstantiality with God ensures.

1520. It is through this image of God in man that he ascribes to God, with seeming consistency, the attributes of humanity, and infers the law of divine intercourse: his chief error therein is the attributing physically, and according to sense, and not intellectually, spiritually, and elementarily. But God is the beginning and the end, who does all immediately by His own power and presence, without extrinsic matter, means, or instruments for his purposes, and not in the manner of man; and, accordingly, every mean and instrument throughout nature is itself an end, beginning, being, and terminating in the same Almighty Power. It is hence, also, that men, unable or unwilling to elevate themselves to God, take the easier way of levelling Him to their own conceptions.

1521. It is agreeable, also, to this original participation of the Divine nature, that the moral and religious progress of man consists in rendering himself worthy of approach to and reunion with God, by divesting his will of that selfish individuality in which his physical existence commences,—by subjecting his will and desires to the one great master-passion of the Love of God, and by aspiring with all his soul to the goal of perfect intelligence and spirituality.

1522. The analogy of the triple state, progress, and condition of man, so beautifully illustrated naturally in the three states of the Papilio and Phalæna, the maggot, chrysalis, and moth or butterfly, has not escaped the notice of the Physico-theologist, as analogous to the life, death, and resurrection of the Soul of man. In the worm or maggot state, the animal grovels, feeds, and lives on gross matter; in the state of chrysalis, it dies or endorms intermediately; in the final, or winged state, it rises into air in all its glory, a fit object of admiration and love, and strikingly figurative of the spiritual soul, called *psyche* by the Greeks, whom this analogy had not escaped, and who drew all their inventions from nature; and, among others, the inimitably beautiful, philosophical, sensible, and moral allegory of Cupid and Psyche. They gave, also, to the science of Soul, or spirit, the name of *Psychology*.

1523. How it has happened that *Triunity*, which belongs supereminently to God, and by derivation to man and all his creatures, whence it pervades as fact the universe of nature and science, should have been deemed an inconceivable mystery, otherwise than in essence, by its very advocates, and as contradictory and contrary to reason by their opponents, might astonish, were it not that every act, sensation, and thought, involves triunity, and that co-essentials, of which we have clear evidence in connexion, elude our faculties when separated; just as ethereals do, of which we witness the various effects in their conjunction alone; for they, also, are unknowable simply, and in essence.

1524. But as triunity is a natural fact, and there is a principle of renovation even in destruction in natural things, and as in the fall of man from true religion some traces of the doctrine of *Trinity* were preserved even in the most idolatrous worship, so the principle, being universal and prevailing in moral things, this remnant of original doctrine may aid in upholding and re-establishing true religion universally.

1525. Nevertheless, we argue not against any creed herein; for to dispute about the nature of the Godhead, denotes either gross ignorance or presumption: nor does it concern us whether triunity be Platonism, or by whatever name it may be called, nor any otherwise than it is *true* either as an analogue or essential relation, a revelation or a fact.

## SECTION V.

1526. So much principally with respect to God and Man, as the matter and object of religion, or *Theology;* the forms and relations of which, as disclosed in the various doctrines and practices of different ages and countries, may, in the next place, be traced and distributed according to universal analogy and the forms of science.

1527. First, then, in external relation, Theology may be distributed into *Physical Theology,* or the deification of nature and natural objects: whence the worship of the Sun and heavenly bodies, the Elements, &c.

1528. Secondly, in medial relation, into *Figurative Theology;* whence the adoration of sensible Images and representations, or personifications of the powers of Nature and of Nations, and the attributes of Mind: and such have been the poetical and allegorical Mythologies of Rome, Greece, Egypt, and the East, and, more or less grossly, wherever Idolatry has prevailed. In which relation, Theology is symbolical; and symbols and ensigns, crescents and crosses, have accordingly been idols of popular veneration — the heraldry of religion.

1529. And, thirdly, in internal relation, into *Intellectual Theology,* or the deification of mind and its attributes: whence the adoration of animate beings, spiritual intelligences, the demiurgus, or soul of the world, &c.

1530. This triple distribution of Theology according to the relations of science, agrees with that of Varro, founded upon history: for he divides Theology into the *Fabulous*, or that of the poets; the *Physical*, or that of the philosophers; and the *Civil*, instituted for political purposes, and referring to the ethical, or moral and intellectual ends. And in like coincidence, according to modern history, Theology is triply distinguishable into *Natural*, *Mythological*, and *Revealed*, or Divine; which latter is again divided into *Patriarchal*, *Mosaic*, and *Christian*.

1531. These, again, have appeared diversified and compounded in innumerable ways, so that every department and object of nature, or figure of imagination, has been deified in its turn, and each has had its various sects, so that the number of creeds and religions has been hardly less than the number of the gods: of all which, as of true religion in particular, *Atheism* is the negation, being the last resort of dogmatism, apostasy, and scepticism in religion; while the comprehensive analogy of universal Theology and Revelation absorbs and resolves them all in subjection to *the One only true God and Triune essence of all.* "*Look unto* HIM, *and be ye saved, all the ends of the earth; for* HE IS GOD, *and there is none else.* HE *has sworn by*

HIMSELF; *the word has gone out of* HIS *mouth in righteousness, and shall not return; that unto* HIM *every knee shall bow, every tongue shall swear."**

## SECTION VI.

1532. The pure *Theist,* as distinguished from the mere Deist, is purely religious; and the purely religious is under a purely moral influence, such as is the true Christian morality. But when men sink progressively into deism, idolatry, and atheism, they uniformly become immoral, lost to all spiritual interest, soulless, solitary, the slaves of the present hour and of sensuality.

1533. It was while thus falling into idolatry from the pure theism of Moses, that the Israelites sunk into gross immorality; so the tendencies to idolatry in the Christian church have at all times brought with them corresponding laxity; while the good morals of the Hindus may, as far as they go, be traced to their theism, as their immoral practices may to their idolatry.

1534. We might instance, in like manner, the immorality of deism and atheism, the two extremes of infidelity. On the other hand, *pure morality* conducts to *pure theism;* and Socrates attempted through it to raise the Greeks from their idolatry. Christianity combines both these influences in behalf of a purely divine religion.

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* Isaiah, xlv. 22, 23.

1535. *Natural Theology* would, according to all analogy, have progressed to a better end, had not vulgar idolatries and the pre-elections of men restrained the virtuous course of wisdom, and compelled the learned in all ages to yield their better doctrines to the grossest acknowledged rites and superstitions. For Religion is not only a Science, but it is also the most interesting and exalted of all Sciences, and never can sink into total neglect, nor naturally rise toward perfection, but from the same causes that raise and sink other sciences. And, since no science declines through investigation, religion need not fear freedom and inquiry; but rather has reason to dread those restrictions and restraints by which false doctrines and practices have fettered and corrupted not only the subordinate arts and sciences, but also those master sciences by which human and divine affairs are supremely governed.

## SECTION VII.

1536. Man is naturally and alternately governed by two determining spirits,—a *spirit of Evil,* which is sensual, and of material origin; and a *spirit of Good,* which is intellectual, and of moral derivation: but man is born in sin, and the spirit of evil has first dominion over him.

1537. Accordingly, *Natural Theology*, at its origin, founds itself on the passions of Man, the genera of which are fear and hope, grief and joy, hatred and love; and chiefly, and first, it addresses itself to his *fear*.

1538. In proportion as Religion is founded on fear, it deifies *Evil;* in proportion as it is founded on love, it deifies *Good:* yet those who personify Good and Evil as God and Devil, are still idolaters or image worshippers; for the true God and Lord of All, who " makes peace and creates evil," presides ineffably, incomprehensibly, yet absolutely, and by an essential analogy,—an object of necessary faith, and not of human knowledge; but Good and Evil are correlative attributes,—ends, and not essences, —not principles or beings, but purposes: and the Manichean scheme, which deified both, gave them idolatrous and figurative reality only.

1539. The first motive to religion among an ignorant and barbaric people, appears to be invariably the *deprecation of evil:* consequently, the first Divinity of such a people is *an object of fear,*— the Evil Principle personified,—the *Evil Spirit;* whence Demon worship, and horrid propitiations, and superstitious terrors.

1540. In proportion as natural religion becomes more rational and refined, it addresses itself to the better passions; and, approaching the pure principle of intelligence, the power and principle of Evil declines, and that of Good predominates, as well in its rites as in its Deities, till the *Spirit of Good* prevails, and *an object of pure love,* the *one only eternal God,* is in the end established.

**1541.** The principle of *gratitude for good, with resignation to necessary evil,* becomes, then, the chief doctrine of religion. Good is then regarded as the absolute, and Evil becomes a negative principle; the work of man, and remote from Him who is of purer eyes than to behold iniquity.

**1542.** The grossness of heathen *Diabolism,* in its various forms, founded on fear, and the purity and spiritual *Theism* of true Christianity, which elevates and unites man to God, are sufficient testimony of the truth of this deduction throughout: for Christianity is founded, in an opposite direction through pure spirit, upon *love,* which it delivers in three forms or degrees,—personal, social, and divine,—as the sum and substance of all true religion, the law, and the prophets.

**1543.** Accordingly, Christ has expressly commanded,—"Thou shalt love the Lord *thy God* with all thy heart, and with all thy soul, and with all thy mind. This is the first and great commandment. And the second is like unto it: Thou shalt love *thy neighbour* as *thyself.*"* And of these three forms of love, the first is spiritual and voluntary, the last natural and involuntary, and therefore needed no commandment. This love of Christianity is also the principle of its pure morality, and political and divine philanthropy.

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* Matthew, xxii. 37—39.

1544. Thus, in the early social state, man worships through *fear:* in his advanced state, through *love.* In the first, he is to be incited, morally, politically, and religiously, by *dread of evil;* in the latter, by the *desire of good:* in the one, principally deterred by *punishment;* in the other, encouraged chiefly by *reward:* in the first, according to *sense;* and, in the last, according to *reason and intelligence.* Thus, in the language of Scripture, "*the fear of the Lord is the beginning of wisdom;*" and "*perfect love casteth out fear.*" Such, also, is the moral career of man individually.

1545. It is thus that two opposed principles concur in all the effects of the universe; not only throughout the middle branches of science, and in the extremes of physics and ethics, but even in religion: as is philosophically pointed out by the wise son of Sirach, "*So look upon all the works of the Most High; and there are two and two, one against another.*"* —Two extremes, of which the works are the media. Man, and all the works of God, came from the hand of their Maker potentially perfect; but, as some plants become either pernicious or nutritious according to soil and culture, such also is man, for evil or for good: and evil came first, as darkness preceded light. Nevertheless, it accords also with our universal doctrine, that the fear and the love of God concur throughout religion, both natural and revealed; and Christianity comprehends them both: but, in the fulness or perfection of religious feeling, fear transides into awe or reverence, and combines with admiration in love.

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* Ecclesiasticus, xxxiii. 15.

1546. Finally: as to the rational grounds and logical modes of proof and faith in God, they must be either established on principles, ontologically; relations, mesologically; or on purposes, teleologically: that is, there is no other scientific ground of religious knowledge than either the absolute on the two extremes, or the relation between them.

1547. The Divine Being may be inferred, on the ground of Existence, ontologically; or, on the evidence of design or fitness of all things to an end, teleologically; or, from necessary relations, analogically: the latter of which is the true and sole ground of genuine scientific knowledge and just logical conclusion. And these three comprehend all other grounds.

1548. Nevertheless, the existence of a necessary Being, and an Author or cause of the universal design, concurring in and with necessary analogical relation, afford entire and incontestable proof of the Being of a God, and the consequent duties of religion and morality in coincidence with Christian revelation; together with the impossibility of their negation, amounting to absolute certainty.

## SECTION VIII.

1549. We have thus indigitated this most sublime and important of all sciences upon a rational or intellectual foundation; and, were this the proper place for such a discussion, a wide and fertile field lies open, whereon the identity of the religion of reason and revelation may be established, and these which have been held at continual variance, may be reconciled by an unbounded analogy which unfolds the same simple and sublime Theology that pervades the "Old Testament," and the pure moral and religious doctrine of the New, which establishes, in consonance with the purest reason, the duties of man to himself, his neighbour, and his God.

1550. The religion of reason alone, in the perfection of its faculty, is, however, suited only to the purely rational, or God-enlightened and perfectly cultivated mind; and if it exacts no martyrdom, and asks no other miracle than the eternal miracle of the Universe, and manifestation of God throughout, it is because it requires them not; wherein it differs without dissenting from the religion of revelation, which did require them, because it was designed to enlighten and conduct those, who, wanting a pure or enlightened understanding and uprightness, and who, opining through sense and sensuality, had not the light within them, and were not, according to the expression of the great Apostle, a light or a law unto themselves.

1551. Thus, in religion, as in all things that concern the human mind, reason is, in its perfection, next to God himself, his greatest and latest gift to man, to be to him a law and guide; but if, either through indolence, occupation, prejudice, sensuality, evil communication, bad education, incapacity, or other cause of ignorance, it should not avail him, he must of necessity be either lamentably without religion, wanting which he is hopeless, or he must take it for better or worse upon the faith of others; and then best so by following the most moral; and, next to this, the most general or established; which, if not in every country the truest, is in each the most respectable, owing to the questionable motives of popular dissent.

1552. Yet if any man distrust these, as he may, and also the many other forms of faith and practice prescribed by religious professors, he may yet safely confide in and follow the true revelations and infallible words of Christ, recorded with singular harmony by the Evangelists: in which he cannot err, for they are the communication of Divine reason and authority; without earthly motive, in perfect correspondence with correct human reason, and unfold with brevity every essential for the perfecting of the spirit of man; while they will enlighten his understanding, concerning his relations here and his hopes hereafter, more than all the other written authorities of the world put together, and reconcile to reason the endless disappointments and vanity of all earthly pursuits, by the failure of which man is driven and deluded, as it were, to his only sure reliance, where all his loves and desires become concentrated in the end in the desire and love of God.

1553. But in no case can worldly expedience be tolerated by the sincere in the choice of religion; nor can any fraudulent policy govern the acts of the truly religious, for the piety of fraud is anomalous, and horrible to the pure spirit; and he, above all, most detestably blasphemes, who speaks concerning God and His religion with hypocrisy: compared with which, denying Him with sincerity is laudable, since he who does so is but a fool,—an object of contempt and pity.

1554. It is the falsehood attached to truth, by partisans in religion and philosophy, that for a while confounds them; and Christianity, divested of the errors that divide and distract it, will flourish eternally as truth,—the purest, the sublimest, the most profound philosophy: for truth admits neither sect nor party, and pure Christianity will ever be the same for all men.

1555. As to the abuse and recrimination which in the name of religion and philosophy parties have put upon each other, we deprecate equally the shallow licentiousness employed on the one extreme, and the dogmatical uncharitableness of the other, which have subjected the modern advocate of rational faith to the suspicion of hostility to Christianity, as they have the scriptural advocate to the imputation of intolerant hypocrisy, ignorance, and prejudice; as if revelation were not rational, or reason not scriptural; or as if there were unity of truth, but not of religion; or as if, finally, it were necessary to be ignorant to be orthodox, or for the orthodox to be governed by a one-sided truth and prejudice.

## SECTION IX.

1556. The previous distribution we have given to the philosophic sects applies, in a principal manner, to those of religion, as *materialists, intellectualists* (or idealists), and *sensualists,*— each *dogmatical, analogical,* or *sceptical;* and the same course of argument which applies to philosophy will apply to religion, as a subject of pure intellection, with more force than to any other department of science.

1557. And as in antient philosophy the dogmatic sects opposed each other till philosophy sunk beneath scepticism, so have the sectaries, advocates, and opponents of Christianity disputed and dogmatised, till scepticism has opened the door to infidelity and atheism.

1558. To support religion and philosophy, therefore, beneath the burdens that controversy has thus put upon them,—to reconcile the discordant sects and factions by which their doctrines are distracted, and, above all, to repel the licentious attacks of infidelity and scepticism, it is necessary in each case to resort to first principles, as the only solid ground of agreement whereon these important ends can be established, and succeeding ages saved from the fearful consequences and ultimate destruction which follow alike from ungoverned thought and action.

1559. The slave may be deterred by the dread of punishment, and the terrors of superstition may check the vices and crimes of the mind enslaved by ignorance; but the free are restrained only by generosity, and reason or right alone can control the enlightened or free of mind: therefore the irrational and undisciplined mind cannot endure freedom, and man and society require preparation and progress ere they can bear either political and religious liberty, or truth. " I have yet many things to say unto you," said Christ to his disciples, " but ye cannot bear them now."

1560. It is to a like necessity of suiting precepts and practice, for any end, to the mind and condition of man, that we owe the expediency of a ritual and offices, or visible church of Christ;

which will be as unnecessary in the perfect *purity of Christianity*, as political forms and government would be under a *perfectly moral* condition of mankind. But so long as these are wanting, the policy of a Church and State must be maintained for the preservation of the spiritual church and the peace of a people; and it is an ideal perfection only that man and society will ever attain that moral and religious purity, practically, which will render a visible church and political rule unnecessary.

**1561.** Considering, then, the imperfection of man, and the sacred import of religion, it becomes us to advance with the modesty and caution in such inquiries which ought to accompany powers confessedly so weak and transient as those of the human mind; and if the weakness of human powers renders circumspection essential to the successful acquisition of ordinary knowledge and practice in the physical and sensible sciences and arts, how much more so do they in the ethical; and how much more deplorable are the consequences of error herein, involving, as they do, the most important and sacred obligations of Morals, Politics, and Religion, upon the practice of which depends the happiness or misery, the salvation or destruction, of mankind!

**1562.** And if life be so short that we are bound to take much in every art and science upon the credit of our predecessors, much more have we need of this traditional aid in religion, and much more occasion for care and diffidence in our researches into this most abstract and sublime of all the sciences: cautions equally called for in the promulgation of new, as in the rejection of antient, doctrines and institutions.

1563. And since it is admitted on all hands that *Revelation* is a matter not of natural reason and experience, but of fact, faith, and scriptural tradition; and we have no pretence to such revelation in any other thing in nature, art, or science, than in the high and transcendent respect of religion, our only guides in them are reason and experience. Duly weighing, therefore, the above considerations, we have ventured with diffidence to treat of religion as a science.

1564. Accordingly, in the present outline, Religion or Theology, as belonging to science, has been deduced, not from hypothesis, but necessarily out of reason and universal principles; and, happily, herein reason confirms revealed religion; if not entirely, according to the creeds and practices of men, upon which they are by no means universally agreed, at least it does so generally, and it coincides with and confirms in a remarkable manner the principal doctrines of the Christian faith as delivered by Christ and his apostles: to do adequate justice to which coincidence, would alone demand a distinct treatise.

1565. Our plan and opportunities have admitted of a brief and desultory sketch only, and not of a finished treatise; but if *reason* produce conviction upon universal relations necessarily,—if *faith* be a reasonable assent or belief upon some valid foundation,—if the foundation of belief in revelation be its rational doctrines and scriptural tradition,—and if it be made manifest that such doctrines and tradition are agreeable to universal reason, then will belief in revelation be converted into a moral certainty and conviction, that may break the edge of scepticism, and stand as a barrier to infidelity.

1566. At the same time, it becomes no weak argument in favour of religion, that without it there would be a hiatus in science,—a vacancy that demanded filling up,—that man must, therefore, have this highest of all relations, and be subject to all its rational doctrines and duties, or he is bound in reason to renounce science as a whole, the very expression of which involves an absurdity, and enforces his assent, if man would be consistent with himself.

1567. And with regard to those who would build their religious faith upon science or reason alone, it is important to remark, that as revelation stands upon distinct ground from science, there can be nothing in science repugnant to revelation, nor any thing in reason that should prevent the Almighty from manifesting Himself in other ways, or in a peculiar and transcendent manner entheastically in the human mind.

1568. So far, indeed, are genuine science and revelation, or philosophy and true religion, from having any natural repugnance, that any discordance between them may justly be regarded as a criterion of error and fallacy which truth and religion call on us to resolve; therefore are not those justified who, through a false zeal, set either reason and religion, or God and nature, at variance: nor would the Author of nature, reason, and faith, contradict His words by His works; nor does one truth ever contradict another.

1569. We are bound, therefore, to regard as fallacious that doctrine, whatever it be, which holds Christianity in hostility with science and the natural world; for these are all equally the work of God: and although He has formed Christianity in perfect harmony with itself, so has he also science and nature with themselves; and therefore they are all in harmony with, and made for each other, when rightly understood. Those Christians are, therefore, falsely devout, if not criminally impious, who, assigning knowledge and the world to the Devil, set at variance the works of God. We speak not here of the metaphors by which hypocrisy and sin are called knowledge, the world and the Devil.

1570. Philosophy is knowledge; and philosophy, without a God, is like the world without a sun, — dark, gloomy, and unfruitful: and Religion, which is the light of God, is, in the absence of philosophy, as the splendour of the sun without a world to shine upon; that is, as light shining in darkness unreflected: whence, as the sun and earth were created for each other, so, doubtlessly, were religion and philosophy.

1571. Nevertheless, by an unhappy prejudice, or false zeal and party-spirit, on both sides, this union of philosophy and religion has been too often denounced: the religionist charging philosophy with impiety,—the philosophist accusing religion and revelation of imposture; the one renouncing reason with horror,—the other rejecting revelation with disdain. But the passions are of no authority in the council of truth.

1572. Yet the all-sufficiency of revelation may stand as some excuse for its votaries; but philosophy, which ought to be established throughout upon reason, is inconsequent, and without plea or defence, when it rejects religion and revelation, instead of repairing its own defects, supplying its own deficiencies, and resolving its own discordances.

## SECTION X.

1573. It has been maintained, not without some plausibility, that there is an especial tendency in physical philosophy to demoralize the mind; and as this may be regarded as applying also to the physical department of our system, it is incumbent on us to avert the stigma, and to endeavour to set at rest any pious scruples bearing on the question, by shewing that this opinion is well founded only when Physics are made the groundwork of study, to which all other knowledge is to be subordinated.

1574. Neither moral nor religious mischief is to be apprehended from the doctrine according to which we have conducted the physical or external agent into the brain, the chief seat of mind, and assigned it the all-important offices of thought; for this, on the contrary, preserves from the baneful consequences of that contracted view of nature upon which the vulgar materialism of the soul is founded, *by identifying the original external and internal agent.*

1575. This is the link in the chain of being which completes its universal circle, and connects us with Deity. It demonstrates that all is of *one original,* and that our individual essence is a spark of the universal, " in whom we live, move, and have our being," with all its ethical consequences: in fine, *it resolves all physical power into moral power,* or the will of an intelligent spirit, and evinces the *omnipotence* of the Creator, who could thus, from the same principles and substance, produce matter, sense, and soul. He who, according to St. Paul, has made " the things that are seen of things that do not appear;" and " the invisible things of Him from the creation of the world clearly seen, being understood by the things that are made, even His Eternal Power and Godhead."

1576. No analogy of nature, no perception of sense, no power of reason, can teach us how spirit can move body, if they have not a community of nature or principles; in truth, the mutual affections of matter and mind, body and spirit, are not even rationally conceivable upon the common notion of their absolute difference and independence. Accordingly, it is true, physically, morally, and universally, that all things communicate only by identity of their elements interchangeably, just as all words, however variously composed, sound and signify only through communion of the vowels, which are the elements of speech.

1577. We are bound, therefore, either to *elevate matter to mind*, and give to the universe an internal or intellectual subsistence alone, as the idealist does; or to *sink mind into matter*, and allow of only a physical or external world, like the materialist; or, finally, to assign to them a *common concurring nature*, with the analogist: for it is not possible that a reasonable being can run to the absurdest extreme of scepticism, by doubting their reciprocal action and affection.

1578. It may be urged that it belongs to Physics to uphold the importance of *matter*, as it may to Metaphysics to determine the precedence of *mind;* but it belongs not to either to degrade either mind or matter, nor to maintain the one as the absolute principle of the other. In truth, the *physician* or *natural philosopher* departs from his province when he assumes the materialist, by founding mind upon a physical basis, as the *metaphysician* or *moral philosopher* does when he assumes the idealist, by founding matter upon mere intellection; but it belongs to the true *universal philosopher* or *analogist* to maintain the correlation of these principles.

1579. It is, therefore, through a mistaken zeal that the spiritualist or divine debases matter; nay, it amounts to impiety, if it be true that an Omnipotent God equally creates and constitutes them both, and that they resolve into the same principle or source: of the nature, essence, or origin of which we possess no faculty capable of determining or comprehending, perceiving or conceiving, and of which we can know negatively only that it is neither mind nor matter, as humanly understood, but something ineffable and divine.

1580. Knowledge belongs to the mind as an effect; and to every *effect* there must be an *agent* and *patient:* hence, the agent and patient cannot be known separately, but only in conjunction; and hence the passive or material, and the active or intellectual essences of things cannot be known singly or alone, but only so inferred.

1581. But if these two, — the intellectual and the material,—be, as all nature and reason testify, the agent and patient of the same *Universal Being,* they constitute by concurrence perfect knowledge, and the unity of all things. In such sense only God is known,—is Truth itself,—the ultimate boundary and consummation of all,—"in whom man lives, moves, and has his being;" for HE is all-comprehending.

1582. We do not, therefore, infer that God is the mere matter and mind, or body and soul of the universe, but only that we perspect Him naturally and through science, in those intellectual elements, which are the coessentials of all things within the bounds of knowledge, and the natural ministers of that Divine Power who reveals Himself to us through His works, as He is revealed to us in sacred writ; all in all, infinite in wisdom, power, and goodness, and incomprehensible in essence. Our doctrine thus refers all nature and spirit to God, the Eternal Creator, and is, therefore, the opposite of pantheism.

1583. Since, then, mind and matter cannot act reciprocally unless they have a common nature or essence, it follows that metaphysical disputation concerning their essential causality is mere logomachy; but if, in the established order of things, either of these principles have superiority or precedence, it must be *mind, consciousness, or the active principle.*

1584. So much for the principle of the universe: and if we look to its end or chief purpose, which is moral, we must again give the precedence to mind, or consciousness; and if, finally, between these extremes, we regard the means, or relations, by which the universe is connected as a whole, we must also assign them to *mind*, — the active, formative, and ruling principle, — the beginning, the middle, and the end.

1585. If, then, upon the whole, we have truly inferred that the elements of matter are incapable of physical representation, or, in common language, have no independent sensible existence, but that the simplest substances perceptible by sense resolve into *powers* which are conceivable only by active intellect or consciousness, and that hence the physical elements are in themselves metaphysical or intellectual, then it follows conclusively that there can be no unconscious existence, or that *existence and consciousness are the same.*

1586. It follows, also, that individual consciousness resolves into, and is eternally secured by the universal, indestructible consciousness; which, although it be not the Divinity Himself, is the nearest approach to, or the prime attribute of Divinity, who, comprehending in himself all action and reaction, sustains the physical world metaphysically, — Is, or exists by pre-eminence, — and, effecting all without resistance, is, in an absolute sense, universally and eternally indefatigable, — "He who fainteth not, neither is weary,"* — the Great I AM.

* Isaiah, xl. 28.

1587. Analytically, and in other words, the universe, physical and metaphysical, is a universe of consciousness, and all the diversities of existence are but the correspondences and correlations of consciousness; and as all consciousness, or intelligence, is a unifying or comprehending power, so there is *One all-comprehending consciousness or Divinity.*

1588. If mind or consciousness were, then, as some natural philosophers and anatomists would persuade us, the effect of material organic action, or mechanism, there must be, nevertheless, a recipient or subject of the effect, or it would be baseless and void; but there is nothing beyond consciousness, nor any thing without it: it is, therefore, the sole absolute, and is all-comprehending,—the only cause that is not an effect, for consciousness precedes and accompanies existence essentially. Hence, all things are actuated, or caused and ruled by intellect; and this is the pure principle of true piety, without which there can be only a physical religion at best, or a religion without relation.

1589. That matter is not independent of mind, and that they have a common principle, is a doctrine truly scriptural, and might be confirmed by many texts. Thus: "Before the mountains were brought forth, or ever the earth and the world were made; thou art God from everlasting."* And

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* Psalm xc. 2.

"although our body perish, yet in our flesh shall we see God."[*] "For thine incorruptible Spirit is *in all things*."[†]

1590. This doctrine is also strictly conformable to the philosophic maxim, "*Entia non sunt multiplicanda sine necessitate*." And since two beings cannot occupy the same place, the doctrine of one only Universal Being is essential to the ubiquity of God, and the boundlessness of all His attributes; nor can there be, according to essential reason, a second nature distinct from God: for such would be to Him a limit. "Unto Him may nothing be added, neither can He be diminished; and He hath no need of any Counsellor."[‡]

1591. Upon the whole we are justified, in concluding, relatively, that the moral world is not subordinated to the physical, but the physical to the moral; and that of them absolutely, or in essence, we can know nothing: materialism, therefore, identifies itself with absurdity, and idealism does the same; while of that common doctrine, which conjoins these in double being, "whose body *nature* is, and *God* the soul," something worse might be asserted.

1592. So much, by way of apology, for true Physics; and as for the religious effects of physical and sensible nature, their wisdom, beauties, and sublimities, upon the rightly disposed mind, so eloquently enforced in behalf of religion by moralists and divines, we will not here appeal from the soul to the senses — from the understanding to the heart.

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[*] Job, xix. 26.

[†] Wisdom of Solomon, xii. 1.

[‡] Ecclesiast. xlii. 21.

1593. Not only, therefore, does the above doctrine favour morality and natural religion, but, in the highest of all views, it comports remarkably with pure Christianity; shewing plainly the possibility of Divine inspiration, and of the infusion and incarnation of spirit: in a word, it comports truly with all the promises and declarations of Christ.

1594. There has, however, been much variously attached to Christianity, both in doctrine and discipline, with which its Divine Author never invested it; and if any thing of this kind is impugned by, and stand not the test of philosophy, there remains yet this consolation, that to defeat its errors is not an innovation, but a restoration of Christianity. Whatever the varying forms of Christianity, therefore, may suffer through true philosophy, will be amply compensated by the purification of its practice, and the confirmation of its truth and certainty.

## SECTION XI.

1595. We have arrived, then, at the point where philosophy reaches the boundary at which reason recoils upon itself; and, where rational thought begins to fail, words, the signs of thought, loose signification: in approaching such extreme, there arises much ground of misunderstanding in the use of words; to obviate which, in some respect, let it be observed, that we have employed the terms matter, mind, their derivatives and synonyms, in relative senses only.

1596. And we would not be understood to imply that matter is necessarily eternal and imperishable because it is the act of God; for we believe, upon philosophic ground, that "if He gather unto Himself His spirit and His breath, all flesh shall perish together;"[*] and

> —— "the great globe itself,
> Yea, all which it inherit, shall dissolve;
> And, like the baseless fabric of a vision,
> Leave not a rack behind."

Nor must we here be supposed to declaim: for, where philosophic argument terminates, there remain only the transcendant sublimities of inspiration, or the fine phrenzy of the poet.

1597. So much for the philosophy of religion, which builds upon the ultimity of reason a firm foundation for faith; but he exercises faith unlawfully, and through indolence, who yields it to things which are attainable through reason, and ordinary thought and experience: for faith should be the resort and dependence of the soul, where it is bounded by nescience, or the ignorance that succeeds to knowledge. True faith is the conviction or consciousness of things which lie beyond the boundaries of reason and experience, and comes in aid when and where these faculties fail us: "for by wisdom man hath not known God."

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[*] Job, xxxiv. 14, 15.

## SECTION XII.

1598. Finally: as the Author of reason would not do that which is against reason, and as Revelation is from God, and reason is the principle in man upon which the extreme of faith in Him depends, revelation and reason must go hand in hand, if we would not absurdly entertain the one without the other: it has accordingly been the aim of the best and most enlightened Divines and Fathers of the Christian Church to support the accordance of revelation and philosophy, and to place the doctrines and faith of Christianity upon the ground of universal reason. And, happily, true reason is the rock of Christianity, — upon which it was first established, — with which it has weathered all storms, and by the strength of which it will be undoubtedly sustained for ever.

1599. Of the first of these powers, we have this unquestionable evidence, that Christianity, after being rejected in its native country by the degenerate of Israel, although founded on pure Judaism, was first established, in despite of prejudice and human authority, among the Greeks and Romans, the most powerful, intellectual, reasoning, scientific, and celebrated people that the world had thitherto produced, and who were undoubtedly prepared for such an advent by that Divine Wisdom which inspires man in all times to reason and know truly.

1600. The second is incontestable:—for who will question the power with which Christianity has resisted the blasts of antient and modern infidelity, grounded on the illogical assumptions of atomism and sensualism? or who will deny that it has been professed by the most truly distinguished geniuses of its entire period, and proclaimed by the most enlightened of modern nations? till, in the end, its true faith and practice have become the only sure test and sign of refined manners and pure intelligence, not only in individuals, but throughout the species; and while intellect, learning, and humanity have declined with its corruptions, and civilization has invariably advanced in the wake of Christianity, barbarism has attended and followed all other creeds.

1601. And, that pure Christianity will be sustained for ever, we have prophetic assurance, in the continual advancement, purification, and discoveries of science—always approaching, and constantly revealing confirmations of scriptural evidence and faith: till reason and Divine revelation, which are one in truth, shall have established their essential conjunction in holy and eternal alliance.

1602. It is to be deplored, nevertheless, as a disgrace to learning, that the intolerant spirit of religious controversy should have occasioned, by a sort of common consent, the expulsion of religion from the social precincts of science: thereby degrading the sublimest of human knowledge, and rendering religion an outcast, for the sake of a truce that cannot promote a philosophic spirit, and will not fail, if persisted in, to effect the total neglect and extinction of religion among the learned. But the tie of reason and Divine revelation is indissoluble, and they will not for ever suffer their first-born to be banished from the household of science.

1603. Upon the whole, we cannot doubt that the result of Revelation and genuine Philosophy will ever be found the same, — each accomplishing the ends of Infinite Wisdom and Goodness,—each confirming the same wise and benevolent plan, and holding out the same temporal and eternal advantages to mankind.

1604. To think, or to profess otherwise, is to incur the absurd inconsequence of concluding logically on nature and philosophy in one way, and on God and religion in another; a double-dealing with truth, that can only be engendered in self-deception, ignorance, or wilful duplicity. And of those, who would hold reason and nature apart from Revelation, we ask, is it not, and has it not always been, by these united, that God himself has prepared the mind of man for the reception of Christianity? and if so, how otherwise should it be maintained or advanced?

1605. Nor must reason and philosophy be condemned for the errors and crimes that have been perpetrated in their names; for if this be sanctioned, what, on the same score, will become of revelation and religion also? We have occasion, therefore, to rejoice, that reason and revelation, which have too much divided mankind, happily unite in principle, relation, and purpose.

1606. On such a subject, however, it is not for us to assume; nor to pretend, by the power of imperfect logic and an incipient philosophy, fully to interpret all the sublime doctrines of religion: our office terminates with our system; to the extent of which, duty has required us to support the most holy behest of reason.

1607. One step further we may yet venture, perhaps, without presumption or impiety, by concluding, according to our principles, that all reason is in a certain respect revealed, or that reason and revelation are in such respect the same,—not exactly in the literal or vulgar sense of these expressions, but in the philosophic and apostolic sense, that no truth can be known that does not come from God, for "God is truth;" and it is through his essential reason that all truth is revealed to man. Hence, the whole universe is governed by unerring reason, and every thing therein, whether physical, sensible, or moral, will, under the same circumstances, concur in the same effects, according to uniform relations; for unerring reason belongs to God, and to deviate therefrom is not in Him.

1608. Accordingly, God, who is always present everywhere, appears and reveals Himself in truth; and he who, in their proper spirit, seeks and discovers truth and reason, seeks and discovers God, and may assert, in the language of inspiration, that he has seen and held converse with God. Hence, perhaps, the rapture which arises in the mind on the discovery or first perception of any truth, so similar to that joy of recognition which attends the first meeting, after a long separation, of those who love. And when we reflect how little of certain truth and reason man attains to, and that he knows nothing from himself, we shall not be surprized at the little knowledge he has of God, nor deny the expedience of extraordinary revelation, nor charge this doctrine with presumption or impiety.

1609. "*But there is a spirit in man, and the inspiration of the Almighty giveth them understanding.*"* And the vain imaginations that matter and mechanism animate, and that elements and atoms are the agents of consciousness and thought, are exploded; how otherwise, then, should we act or think but by that Divine influence, or universal inspiring Spirit of intelligence, which manifested itself *entire* in the acts and judgments of Christ, and is in the Scriptures variously called Wisdom and the Word? "Who else hath put Wisdom in the inward parts? or who hath given understanding to the heart?"* "I, Wisdom, dwell with Prudence, and find out knowledge of witty inventions. When He prepared *the Heavens,* I was there, — when He established *the Clouds,* — when He gave to *the Sea* His decrees, — when He appointed the foundations of *the Earth,* then I was with Him, and My delights were with the sons of men."† Again: "In the beginning was the Word [Λόγος, or reason], and the Word was God. All things were made by Him. In Him was life; and the life was the light of men. And the light shineth in darkness, and the darkness comprehendeth it not."‡ So much against any apprehension of impiety in this doctrine.

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* Job, xxxii. 8.

1610. And, further, against any charge of presumption therein: — should religion be obliterated from science and philosophy, as too sacred or too absurd for reason, and left to its ministers only, as some have advised and asserted it ought to be, this might answer for the stupidly ignorant, or supinely credulous, so far as either of these concern themselves; but this evil consequence would follow, that all who call for the government of reason, and the rejection of ordinances in matters of conscience (and they are by no means a small or decreasing portion of mankind), would be left without any adequate determinative to piety and pure morality, or any ground for religious consolation. Without, therefore, presumptuously infringing on the profession and calling of the divine, we address this element of our system to the philosophic inquirer, and to those who will receive religion through reason alone; and if it reclaim, confirm, or draw one such nearer to Christianity, as it will do, we have not trespassed on the sacred office, nor written in vain: while, should it fail in any case of convincing others, the pious believer, the sceptic, and the infidel, will remain equally uninjured by our philosophy.

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* Job, xxxviii. 36. † Proverbs, viii. 12. ‡ John, i. 1.

1611. And if we have drawn no argument from the miraculous promulgation of Christianity, it has been because our inquiry belongs not to history, but to science, and aims only at the conviction of reason; and although its invincible *miracles*, and its martyrdoms, conjointly with the purity of its practice, were the efficient means of the early propagation and temporal establishment of Christianity in times of popular ignorance, its perfection and eternal duration will be secured alone by the truth of its *doctrine* producing holiness of life, when genuine intelligence shall have become universal with mankind.

1612. Yet even to have overcome all difficulties, and to have established a Christian philosophy,—to be imbued with Christianity scientifically, and to become deeply read in its doctrines, scriptures, and history, and disciplined in its rites, practices, and professions, will be none, nor all of them, sufficient; but we must be inspired and governed throughout by its holy spirit and charity, ere we can participate of its perfecting power, and become Christians and philosophers truly.*

1613. And here we cannot deprecate too earnestly the spirit of hostility with which controversy has been carried on concerning a religion whose principle is *peace;* nor can we consider as altogether blameless the hostile terms which strikingly pervade the writings of the most moderate disputants, from the earliest times of controversy to the present hour, which have justly obtained the name of *polemic.*

1614. For, while Polemics talk, in dubious metaphors, of "arms and armour,"—of "girding on the sword,"—of "attack and defence,"—of "hosts arrayed,"—of "a cause militant and triumphant," &c., however these may be employed as figures of speech, what reader can divest himself of hostile ideas, or believe those to be the dispensers of peace and good-will who hold a language appropriate to the arts of war and contention, so contrary to the just laws of thought, and so entirely different from that of the Author and apostles of Christianity; or that they are totally devoid of all spirit of animosity, or solely governed by that better spirit of truth and meekness so constantly inculcated by our Divine Master and Christian model, in whose cause they choose rather to fight than suffer.

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* See Jeremiah, ix. 23, 24.

1615. And as to the expedience of religious controversy in general, and in its better spirit, it may be worthy of remark, that although attacks upon revelation have done much injury to true religion, the defences set up against them have often propagated infidelity, converted honest thinkers into sceptics, or administered to the spirit of party, with little real service to truth; for the force that proves insufficient to raise a body may throw it down: and such, also, is the power of inadequate reasoning upon the soul; which, standing on a declivity, may be raised to light, or plunged into darkness. Well ought he, therefore, to be assured of his power, and the goodness of his end, who engages in controversy concerning religion; nor is self-defence in general a sufficient reason for disputation on this point.

1616. But if truth be the aim of all, as all profess,—and more especially so in this most important of all concerns,—this united aim will, doubtlessly, be more surely attained by joining all forces,—by holding fast where there is the sure ground of agreement,—by asserting truth, in every form, with reliance on its consequences,—by removing difficulties rather than throwing them in each other's way,—by allowing to our fellow-inquirers, not regarded as adversaries, all that reason can admit,—by entertaining our opinions without prejudice, with disinterestedness and modesty,—by tolerating the innocent opinions of others,—and, above all, by excluding force, passion, abuse, and ridicule, from the jurisdiction of reason.

1617. Yet, to whatever end man acts, he instinctively exerts those powers in which he feels his greatest strength; and where reason fails him, and so long as it shall fail him, man will resort to clamour and passion, even in the service of his God; and, more deplorable yet, when the hand is stronger than the head, the brutal part of man will rise above the divine, and a disposition will be felt to subdue by physical violence and force.

1618. But he who feels his anger rise in argument, should doubt his head; and if he lift his hand, or give loose to passion, reason and religion retire altogether from the unhallowed violation of their laws. Indeed, controversy in matters of science, like contention in matters of possession, ends more frequently in the destroying of its object than in the attainment of right: ruin, confusion, and destruction being the ends of litigation, multitude, and violence.

1619. To conclude: if we have enlarged more than our design seems to require on the relations of revelation and philosophy, with a view to their reconciliation, it has been because they have been held in virulent hostility, to the manifest injury of the sacred cause of true religion,—the most important subject which can engage the thoughts, or influence the actions, of mankind.

# PART IV.

## THE ANALOGY

## OF

## THE ARTS.

# THE ANALOGY

# OF

# THE ARTS.

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## PROEM.

1620. To the three comprehending attributes of mind or intellect,—being, knowing, and doing,—and their three corresponding faculties, — consciousness, understanding, and volition, — we owe the three chief genera of Philosophy in like correspondence: namely, Ontology, or the philosophy of being, powers, elements, or principles,—whence *Disciplines;* Mesology, or the philosophy of knowing, or relations,—whence *Sciences;* and Teleology, or the philosophy of doing, or purposes,—whence *Arts.*

1621. But as these distinctions are relative only, and not absolute, there will arise, under every change of view, some variation or interchange of their relations, some temperament essential to harmony. In the view of science, however, Ontology is the science of powers and Disciplines; Mesology, the science of knowledge, or of the Sciences; and Teleology is the science of ends, or of *Arts*.

1622. As we have already briefly, in the way of analysis, treated of the two first branches of Philosophy, and marked the general relations and bearing of the whole, it remains only that we inquire, for completeness' sake, somewhat more particularly into the latter, or the general relations of art and science of Ends, which we have entitled *Teleology;* and this is, accordingly, our design in the present and final outline of our system.

1623. This is a branch of knowledge which, as a subject of literature and science, has been almost undistinguished; and it is hence, perhaps, that it has received so little attention from the learned and scientific, although, for its importance, it is second to no subject of human contemplation; for it comprehends not only the relations of particular arts, through which they are mutually connected and advanced,—the respects wherein they differ,—their appropriate objects,—the proper means of their attainment, and the great end of all art, but it points to the final purpose of all nature, and even to the ultimate aim and design of Omnipotence universally.

1624. That we should adequately represent a subject of such all-comprehending magnitude even in outline, is not to be hoped; but if we can succeed in throwing but a faint light thereon, or even in calling attention to a matter of such interest and importance, our attempt will not be wholly vain or unprofitable.

1625. The present state of learning presents, indeed, no inconsiderable obstacle to a clear developement thereof, for arts, sciences, disciplines, and philosophy have been so confounded, that the terms themselves are continually employed as synonymous, or, what is worse, heteronymously, or in utter confusion.

1626. It is true, indeed, that philosophy comprehends and recognizes them all,—that every art has its discipline and its science, every discipline its science and art, and every science its art and discipline,—and that they correspond in similitude of relation, and are in certain respects inseparable, as various ways of regarding the same things.

1627. Thus, scientifically, *science* is internal and theoretical, or doctrinal; technically, *art* is external and practical; and *disciplines* are medial, or of reference to both theory and practice, or they are pure and applied; and as such we have already distinguished them.

1628. This correspondence of relations will serve us, however, as a clue to the analysis of *Art* in general; for if every science has its corresponding art, we have but to follow the developement of science to attain the relations of art: and if means are also correspondent to ends, we have but to follow the same relations, which are those of

Mesology, in unfolding the whole of *Teleology*, in genera and species; while we accommodate our developement, as well as we are able, to the present language of literature, and the accredited relations of the arts.

1629. But a difficulty arises from the variety of significations of the term *art*, and the loose and confined senses in which it has been applied. In common acceptation, it is of material and mechanical reference only: the more sensible and refined forms of art have been distinguished by the cognomen of sciences; while moral and intellectual practices have been commonly regarded as *pure sciences*, and as totally independent of art.

1630. Yet art, in its universal sense, extends to whatever can become a subject of prescription or practice, and is, therefore, again correlative with all theory or science. Art, therefore, covers the whole domain of philosophy; but if some ambiguity arise in the employment of ordinary language, by our sometimes calling disciplines and arts sciences, or by naming them interchangeably, an attention to the context will conduct the reader to the appropriate signification and relation.

1631. Now philosophy, in its entire fulness, comprehends principles, means or relations, and purposes, and these are also, therefore, comprehended in art universal; but the principles of art lie wholly in *nature*, its relations are those of science, while purposes are appropriate to art.

Art, then, is chiefly concerned about *ends*, the science of which we have called *Teleology;* or, in reference to art only, *Technology.*

1632. Of the utility of this subject there can be no reasonable doubt, since a right comprehension of art, as a whole, is essential to a perfect practice, and more so to a just criticism, in any of its branches; for it is herein that the true correspondence of art with nature and universal reason lies, and these are the great standards of criticism, wanting a right understanding of which, the Critic does but babble. Hence, that criticism, which judges a work of art by other works of art, without reference to nature and universal reason, is paralogical, and concludes beyond its premises, if not also falsely upon false premises.

1633. In studying and estimating works of fine art, the artist and critic should, therefore, divest themselves of all contracted and prejudiced views of their subjects, and referring them to nature and universal art, ask themselves what they should think of them if they were the productions of general *nature?* As, on the other hand, in selecting and judging of the beauties of nature, the artist and man of taste may inquire with advantage, how they would be esteemed if they were works of art?

1634. It is thus the Painter comes to regard nature with an artist's eye; and it is in this respect that that art is chiefly beautiful which resembles nature, and that nature the most beautiful which manifests, or appears like, art. By looking into art, therefore, we become better qualified for inspecting nature; as the contemplation of pictures with a critic's eye enables us to appreciate a group, a scene, or a landscape, &c. in nature, in which way one thing reflects light upon another throughout philosophy and art.

1635. Thus art and nature concur in principles, means, and purpose, and refer together to one great comprehending reason: whence good taste and humanity are not fully satisfied in the objects and scenes of nature, if there be not some accompaniment of the hand and art of man; and art, without some touch or effect of nature, which is the hand of Divinity, is mere pedantry. The criteria of criticism belong, therefore, to the philosophy of art.

1636. Not only is this philosophy, this science of art, important to the artist and the critic, but it is in the highest degree essential to the true enjoyment of art and nature, as it is also to the establishing of a pure and expanded *taste:* a term loose and indefinite in its ordinary use, denoting in a strict signification internal sense and aptitude to perceive and feel, and power to realize beauty with judgment and intention. Or, in fewer words, taste is sense regulated and refined by judgment; or, as we have expressed it in a previous view, it is a sense of harmony, and aversion from incongruity.

1637. And not only is such a sense connected with a right estimate and enjoyment of art, but it is also as eminently conducive to genius, or right doing, in the most exalted respects, as a false or corrupt taste is practically degrading. This is illustrated by the taste and practice of the Chinese, whose art is decidedly unnatural; and whatever deviates from nature leads from its Author, produces monsters, and is in many respects of immoral tendency.

1638. To this censure of Sinensian taste, the Grotesque, Arabesque, Louis Quatorze, and what in general is called fashionable, and the absurd and incongruous in taste, are variously subject: they have each either a corrupt signification or no meaning; and what has no meaning is without reason, and degrading to intellect.

1639. Opposed to these is that taste which founds itself upon the perfection of nature, such as we see exemplified physically in the landscape gardening of our own country, as it is intellectually in most subjects of Grecian art, and thence distinguished by the appellation of *Attic* from the former, which may with equal propriety be denominated *Asiatic:* the one being characterized by grossness, profusion, ignorance, complexity, discordance, and incongruity; the other by refinement, simplicity, intelligence, utility, beauty, congruity, and harmony: so nearly allied is a good taste to moral and intellectual excellence, as its opposite is to physical, sensual, and mental degradation.

1640. As taste is an exquisite sensibility of the beauties of nature and art, separate or united, an acute sensibility of the beauties of nature may not be inconsistent with the absence of artificial refinement, and an artificial taste may exist without reference to nature; and if the first savour of vulgarity, the extreme of the latter is the fictitious mimicry of mode and fashion: the one is founded on the authority of nature, the other belongs to custom and the authority of man. It is in the union of both these, wherein an exquisite perception of the beauties of nature is regulated and tempered with the refinements of civilization and the rules of art, that a perfect taste is accomplished, which adds grace to whatever can be adorned.

1641. Simplicity is remarkable in the principles and operations of nature, and it is a mark and maxim of good taste, not only in the higher and intellectual senses, but also with regard to the grosser appetites and externals, and the appeal in both is to intellect or understanding. Hence good taste, in the widest signification, does not extend beyond good sense and understanding.

1642. Nevertheless, the Attic, Anglican, and Natural in taste, agree with the Asiatic, Sinensian, Louisian, and Unnatural, in avoiding regular mechanical forms; and the first of these has, in this respect, obtained the name of *picturesque;* which has, in the latter taste, been distinguished by its chief practisers, the Chinese, who have refined upon unnaturalness, by the term *sharawadgi.*

**1643.** All the above diversity of taste, springing from the instinct by which man, and the female in particular, are prompted to realize and acknowledge *beauty,* and to adorn themselves and things around them, is *moral,* and connected with the principle of *good* within them; and is eminently entitled to cultivation and refinement as conducive to the honourable, the noble, the decorous, the grand, and the sublime, — the pleasing, the happy, the Divine!

**1644.** We have alluded here chiefly to *Calliurgic art,* commonly denominated fine art, the subject of which is *Beauty,* the object of taste; for this department is medial in art, and is that to which the term has been applied by way of eminence. But the same principles of criticism apply to the extreme departments of art: on the one hand, to material and mechanical art, the subject of which is utility; and, on the other, to moral art, the subject of which is virtue and good: in correspondence altogether with the three chief objects of human action and art, the *jucundum,* the *utile,* and the *honestum;* as will appear more evidently in the sequel.

**1645.** That morals, and even religion, should be numbered by us among the arts, and placed at their head as principal, will appear strange to those who have been accustomed to regard them only in a gross and popular manner; but that they are such in a more refined sense, and with nearer relation and approach to a theoretical, scientific, and intellectual station, will be at once evident to the more cultivated and philosophic mind; and that that practice and discipline which constitute art are as essential to intellect and intellectual subjects, as they are to the senses and sensibles, or to material and manual things, will, upon a slight examination, be apparent to every one.

1646. It will not in the end be questioned, therefore, that we have attributed too wide a signification to art; nor will it be objected that, regarding ends as principal, we have considered moral and religious ends as the highest attainments of art,—the art of happiness,—the chief object of human science, and the ultimate purpose of creation. To this art owes its dignity, and to this all minor arts are but steps.

1647. Such being the true scope of art, it is not to be wondered at that the early inventors of arts were instinctively celebrated as Divine personages,—the greatest benefactors of mankind; nor that in later times it has been conceded to Genius, gifted or divinely inspired, to invent or to advance arts already disclosed; or that, above all, Divine revelation has been conferred upon chosen minds to instruct mankind in the higher mysteries of moral, political, and religious arts: for in all this there has been truly and philosophically the immediate agency, the hand and assistance of God.

1648. And, however erroneously these Divine honours may have been attributed, or assumed, among ignorant and uncultivated men, still there was in it a general foundation on one great original truth, in kindred connexion and analogy with those more potent and preposterous, but less pious and benevolent idolatries, by which the minds of men have been possessed in all ages and countries, founded on the prime, indefeasible, religious alliance of man with God.

1649. Of the invincible force of truth and good, there needs no stronger proof than that arts, sciences, and inventions, universally useful and true, are never, perhaps, wholly lost amid the wrecks of empires and of time: so that, ages after their inventors and discoverers have sunk into utter oblivion, they continue fresh in preservation, advanced and strengthened by age and improvement.

1650. To this force we are indebted for even the commonest, although not least ingenious, of the arts, contrivances, and productions which ameliorate and sustain life,—such as those of the Dairy, &c.—the chemical inventions of Dyeing, &c.—the mechanical contrivances of Tools and Instruments — the more intellectual inventions of

Alphabetical Writing, Arithmetical Notation, Music, Painting, Poetry, and, moreover, all Literary art, through which we preserve thought, and communicate art itself; and to this force we are, above all, indebted for the preservation of the sublime and simple truths of Religion.

1651. It is the latter which has held together throughout ages in miraculous union the Jewish people, and will help to sustain eternally the Divine and moral truths of Christianity, as it has maintained throughout the world, and in all ages, in one shape or other, the intellectual dogma of the *Triunity* of the Godhead, and other ascriptions of Divinity, which must have been either divinely inspired, the discoveries of art and learning, or of both these united; for it is not to be imagined that the sublimest attainments of intellect have been solely invented and preserved by uncultivated minds, much less can they be supposed to have been the productions of chance or accident; nor that they have vegetated from a germ physically through blind and ignorant necessity, unguided by reason and Divine intelligence.

1652. As, according to universal principles, Nature extends to all existence or being, and Science to all knowledge or knowing, so does Art extend to all efficiency or doing. But all nature consists of the effects of a Universal Being, whose existence and knowledge are the matter and form, or materials and design of nature. Thus, all nature depends on *Divine power and science, or wisdom,* as all art does on the *human;* and thus nature and art stand distinguished, while art is opposed to science, as doing is to knowing, and as practice is to theory.

## OUTLINE VIII.

# TELEOLOGY:

OR,

# THE ANALOGY OF ART AND SCIENCE OF ENDS

INDICATED.

# CHAPTER I.

## TECHNOLOGY.

### RELATIONS OF ART.

### SECTION I.

1653. In the present Outline, we have three principal objects, in conformity with the fundamental theory delivered in our first Outline: the *first* of which, in our present view, and the subject of this chapter, is the developement of the Relations of Art in their genera and species, to which the term *Technology* is principally appropriate.

1654. The second object in the view of science, although first in the view of nature, is to trace the general Principles of Art, which may be denoted by the term *Technics*.

1655. And the last object, in each of these views, is to indicate the ultimate Purposes of Art, appropriately denominated *Teleology*, or the science of ends, and the ends of art, or *Teleurgy*;

and of these, we will attempt the analyses in distinct chapters.

1656. In developing the *Relations of Art*, as we have before remarked, the plan of science must be our guide; because art is coincident with science, and every science has its art; and because there is no art without its particular and appropriate science: and both are coincident with nature. Such developement is also requisite, ere we can adequately trace either the general principles or the purposes of art, which rest upon the same foundation.

1657. *Technology*, in its widest sense, comprehends all doing, or art. Externally, or physically, there is the doing of nature; but art cannot do what is not in nature: nature is, therefore, the fountain of all archetypes; the science of which may be called *Hypotechnics*.

1658. Internally, intellectually, or metaphysically, there is the doing of God,—the Divine intelligence,— the doer of all good,— the end of all; but art can devise nothing beyond human intelligence: the ultimate purposes of Divine intelligence comprehend, therefore, the ends of all art, and all nature. The science of final purposes, or Divine ends, may, therefore, be called *Metatechnics*.

1659. Between these, medially or sensibly, there is the doing of man; but this is *Art* properly limited with regard to man: the general science of which may properly be denominated, in reference to principles, *Technics;* in reference to ends, *Teleology* or *Teleurgy;* and, in reference to relations, *Technology:* and this latter is that principal division of our outline which lies before us first for analysis.

1660. As to Hypotechnics and Metatechnics, they are conceivable portions of universal art, and may become subjects of speculation; but they lie beyond the field of practice, and are no parts of the human system of art.

## SECTION II.

1661. TECHNOLOGY, then, being limited to the relations of art, which correspond to the relations of science, is either external, medial, or internal; for these supply the form of all distribution in science and art; they being, in fact, the first relations of the philosophic system, and the ground of all other relations.

1662. As, however, our design has a medial reference between established art and its strict relations to nature and universal science, and having an eye equally to utility and truth, it will be inexpedient that we should enter into all the ramifications of art; and it will be necessary only that we should trace those leading branches to which art principally refers.

1663. And, since the chief subjects of the internal, medial, and external, are severally thoughts, words, and things, and art has principal reference to *things*, and we have already treated of the relations of thoughts, the science of which is Logic, and of the relations of words, which belong to Philology, each in the double respect of science and art, we may confine our distribution of art to the relations of science, or to the like relations of *things*, as distinguished from *words* and *thoughts*.

1664. In this view, we may regard art as divided, externally or physically, into *Material Arts;* medially or esthetically, into *Fine Arts;* and, internally or ethically, into *Moral Arts:* and these may be considered as the first genera of Art, under which the various specific and different arts may be comprehended.

## SECTION III.

1665. As MATERIAL ART, like nature, refers to powers, and the three kingdoms of nature, there are, in reference to external material powers, *Chemic Arts;* in reference to internal or living powers, laborial or manual, and *Medical Arts*,—to which belong Surgery or Chirurgy; and, in reference to both these medially, mechanical powers, Agriculture, and the *Mechanic Arts*.

1666. And these arts, the species of which are naturally infinite and practically innumerable, are already recognized as specific classes of art, including those commonly called the *useful arts:* the first of which operate principally through physical or material agency; the second, through vital agency; and the last, principally through the agency of machines.

1667. We say principally; for in each there is, according to just universal analogy, some accordance of the others, there being no absolute disjunction nor distinction either in science or in art: and every art has in it some reference and relation, proximate or remote, to all art, all science, and all things.

## SECTION IV.

1668. Again, of FINE ART, we have, in external and material relation, the *Pictural* and *Plastic Arts;* in medial and sensible relation, there are the *Musical* or *Harmonic Arts;* and, in internal and intellectual relation, there are the *Poetic Arts:* and of these, there are no absolute distinctions, but only subordination of relations, in which each has some admixture of the others.

1669. Accordingly, there are the relations of harmony in each,—of figure also,—and of poetic sentiment. And these classes of art are also recognized and received, and their principals, *Music*, *Painting*, and *Poetry*, are universally acknowledged, and called the *Sister Arts.*

1670. To these the term *art* has been, by way of eminence, applied; for they, in a certain measure, comprehend the material and moral extremes of art, and the universal correlatives of science and nature, matter, sense, and intelligence: accordingly, the external, medial, and internal, characterize these arts.

1671. Thus, Poetry participates most of the internal; Painting, of the external; and Music, of the medial: the effects of poetry are internal; those of painting, external; and those of music, medial. The purposes of painting and the external are alike, *the beautiful;* the purpose of music and the medial, *is pleasure;* and the purpose of poetry and the internal, the most exalted of the three, is moral, or *happiness.* The means of painting are material or physical; those of music, sensible; and those of poetry, intellectual: yet, in their general characters, poetry, music, and painting, have their means in the medial; and their general purpose is pleasure, modified by the material, sensible, and intellectual.

1672. We have, hence, a principle, upon which the relative dignity of these arts may be determined; for if poetry is more nearly related to the intellectual, music to the sensible, and painting to the material, — and if the intellectual is above the sensible, and the sensible above the material, — then poetry must rank above music, and music above painting.

1673. Again: the materials of poetry are ideas and sentiments; its instrument, mind; its effect, intelligence: the materials of music are sensations; its instruments, organical; its effects, feelings: lastly, the materials of painting are material; its instruments, mechanical; its effects, sensations. If, then, intelligence is more dignified than feeling, feeling than sense, mind than organs, organs than machines, ideas than sensations, sensations than matter, then poetry is above music, and music takes precedence of painting.

1674. Of these arts, poetry may be considered not only as chief and comprehending, but as the elder and ruling sister, since it is probable there were poets before there were musicians, and musicians before there were painters; and as the proper and immediate purpose of painting is beauty, and of music pleasure, and that of poetry is of a moral and more exalted kind, and may be called happiness, poetry ranks higher than music, and music higher than painting, not only in principles and means, but also in their ends or purposes.

1675. Though inferior in dignity, yet, as requiring fewer conditions, painting is, as an art, more perfect than music and poetry: its effects are on external sense; those of music on internal sense; while the effects of poetry are on intellect. As intellect prevails less than sentiment or feeling, and sentiment less than external sense, so painting will please more extensively than either music or poetry, though its effects are less exalted and rapturous. Yet the field of poetry is that of intellect; it is universal, and all its beauties and amenities are founded in the analogy whereby the mind recognizes its native connexion with all things: so that even the images of fancy are not without a basis.

1676. From the above we may infer, that the rank, dignity, or precedence of these arts, is in the inverse order of their perfection; and to these may be added Sculpture and Architecture, arts still more material than that of the painter: they are, therefore, less dignified, but, as far as they go, they are more perfect. And thus we may descend to other arts; the meaner they are the more perfect they are, or accomplish their purpose more effectually, and with greater facility.

1677. On the other hand, the more dignified an art may be, the higher are its purposes, and the greater are the difficulties by which they are approached or attained: still, however, the excellences of inferior arts rise above the more ordinary productions of the superior, for it is MIND alone that confers true dignity; and that work which participates it in the highest degree, whatever be its relative station in the scale of art, is best entitled to our esteem: nay, base and mean performances in the more elevated class or rank of art, become doubly despicable by contrast. Who does not prefer fine painting to ordinary music or poetry? In truth, the highest excellence in poetry is necessary to obtain currency, while performances not at all uncommon in the inferior arts are highly valued and esteemed.

1678. Yet is the intellectual operation of art not only more appropriate to, but more easily effected in the higher than in the inferior arts; for it is much easier to delude the imagination than it is the senses: and hence the poetry of the pencil is more difficult than that of the pen, and its harmony more rare than that of the musician.

## SECTION V.

1679. Finally, of MORAL ART; a distinction to which the term Art will with difficulty be conceded by practical men. Yet are moral practices and disciplines truly entitled to this denomination, since they operate for objects and ends which, if not tangible, visible, or any way sensible, like the former, are permanently moral and intellectual, and not without some accordance and efficiency with material and sensible things.

1680. Moral Art may, accordingly, be distinguished, first, in external relation, into *Economic Arts,* conjointly with practical individual morals; secondly, in medial relation, into *Political* or *Social Arts,* and practical politics; and, thirdly, in internal relation, into *Religious Arts*, including practical divinity,—of which Liturgy, or the art of prayer, is a part, and Theurgy, a false extreme; and hence nature deified, or the God of nature, was called by the Greeks, who were the greatest of artists, the Demiurgus, Architect or Artificer, of the universe, and Maker of all.[*]

1681. Of these departments of *Moral Art*, the first comprehends the practical duties of individuals, domestic relations, and economic arts; the second includes the practical duties of states and statesmen, and the arts of legislation and government, civil and military; and the third comprises the practical duties of Teachers, Preachers, religious rites and regulations, or what in a wide, and not offensive or perverse sense, is expressed by the term *Priestcraft*, as the two former might be by those of *Statecraft and Homecraft.*

## SECTION VI.

1682. As science is, however, principally appropriate to the internal, so art, as opposed to science, is chiefly appropriate to the external; whence art relates by predominance to material things, and to such the term Art has been principally consigned: yet not only is there an art to every science, but the majority of accredited arts are of mixed, arbitrary, and material relations; and, in this respect, they are remarkably coincident with the arbitrary and accepted sciences.

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[*] Proclus "On the Timæus," vol. i. p. 461.

1683. Indeed, it may be inferred, that the arbitrary and accepted sciences and arts are adapted to and adopted for the sake of each other; for theory, discipline, and practice, are individually and universally coincident. Every art partakes, nevertheless, in subordination of, or pertains by predominance to, one or other of the preceding genera and species of art, so as to be subject to the same general principles and maxims, and to have for objects similar ends.

1684. Hence the Arts, as acknowledged in their arbitrary relations and common denominations, do not correspond strictly to the divisions we have assigned them in relation to the natural distribution of the sciences, but have, in addition to their natural participation of each other, an accidental one, arising from the circumstances of application and practice, to which they owe their invention and progress.

1685. Accordingly, the art of Painting, which is by no means the most complex of the arts, involves, more or less, the material and moral arts, and borrows aids and objects from every art, proximately or remotely, although it belongs, in strictness, to practical optics and visual sense. Other arts do the same; and to this it is owing that the general body of arts is apparently chaotic, and in perpetual flux and reflux with the practice of their times.

1686. Accordingly, the arts of Music and Poetry, which in our age are held to be distinct, were inseparably connected by the antient Greeks, and their association of these arts was attended by a subordination which, though highly advantageous to their conjoint effect, was injurious to the individual power and progress of the subordinated art of Music; which, having been cultivated independently of its sister art, and of all subordination, by the moderns, has been extremely advanced in individual and mechanical perfection, but ineffectively so in its application to Poetry.

1687. Hence the technical and mechanical excellences to which we owe Counterpoint, wherein music accompanies music, with destitution of intellectual expression and poetic pathos; or with occasional subserviency of poetic signification and sentiment to sound: hence, also, harmony in music, so successfully cultivated by the moderns, although not unknown to the antients, was neglected by them. But in the composition, association, and subordination of fine arts, the field of human accomplishment is infinite, and no limits can be assigned to their effects in the sublime respects attempted, and asserted to have been achieved by the Greeks, in the conjunction of music and poetry.

1688. Such associations and alliances of the arts for augmented effect, are dependent upon the analogies through which we have traced their general and universal relations; and, notwithstanding the relation of music and poetry is stronger and nearer than that between music and painting, because the former unite the effects of figurative language and harmonious sound, as painting unites figure and colour, yet have the latter arts many points of comparison, coincidence, and union; of which the following are remarkable:—Thus, aerial perspective appears to be to painting what accompaniment is to music; and, as the distance or background of a picture throws out or relieves its foreground, and is fainter, less positive, and lower in its tone of colour, so the harmony or accompaniment of a musical piece throws out or relieves its melody, is less positive and lower in its tones, and generally subordinate in its lights and shades.

1689. Again: as a picture consists of foreground, middle distance, and background, so the *trio*—bass, mean, and treble, is complete in musical composition, and the natural variety of the human voice consists in the same relations; yet, as a picture is not really divided, but runs progressively into those three parts, it is capable of other divisions. And, in like manner, we may multiply the number and parts of voices in a musical composition: for all things are connected and related not only by system, but also by series and gradation.

1690. And again, the curve or flowing line in painting, and the gradations and breakings of light, shades, and colours, into each other, are analogous to the swell, shake, and undulations, to which we owe the sweetest effects of melody. Such, also, are reflection in colour to echo in sound; analogously to which, the poet beautifully feigned Echo to have pined for Narcissus, and the latter to have been so enamoured of his own reflection in the water, that he languished and died: and it is by a relation stronger than metaphor, that we speak of the tone and harmony of a picture.

1691. If music and poetry are to be regarded as the twin sisters of painting, the sororal relations of the latter with the geminal plastic arts of sculpture and architecture is hardly less intimate, or their geometrical coincidences less analogous. Thus, in the relations of drawing and composition, sculpture and painting are identical; it is in their modes of representation only that they differ: and the harmonic relations of geometry in architecture are admitted. So, again, in the three original orders of Grecian architecture, the *Doric* order was by a natural analogy formed on the lower extreme for masculine strength and dignity, as the *Corinthian* order was, on the opposite extreme, for lightness and gaiety; and between these, as a just mean, was the graceful *Ionic*. So much, briefly, of the infinite relations of *Art*.

# CHAPTER II.

## TECHNICS.

### PRINCIPLES OF ART.

### SECTION I.

1692. **Principles** are positions or postulates, which are the primary relations upon which any thing is grounded, and they are either *natural,* that is, elementary or constitutive;[*] or they are *scientific,* that is, theoretic reasons or axioms; or they are *technical,* that is, disciplinary, preceptive, or practical rules, canons, or laws: for these comprehend all other principles universally. Principles are also primary, and secondary or derived: there is also a loose and popular acceptation of the term, including every sort of motive and determinative.

1693. Such is the wide and various application of the term *principles.* There is, however, some confusion in the ordinary acceptation of the terms rules, principles, and precepts; for principles are employed as rules, rules are sometimes called principles, and precepts are denotive of both: and all these imply relations.

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[*] See vol. i. p. 4.

1694. In philosophic strictness, we hold *principles* to be purely theoretic or scientific postulates; *rules* to be practical principles, laws, or maxims of art; and *precepts* to comprehend both, and to denote discipline: they may, nevertheless, be employed synonymously, where there is no danger of confounding their signification.

1695. Natural *first principles* are too remote from particulars and practice to be of great utility in art and the ordinary affairs of life: thus, the chemist cannot work with elements, which are hypophysical, and the instruments of Omnipotence; and philosophy is to be reproached throughout with the unfruitfulness of its first principles: vulgarly, therefore, they are of no value. But, though of little positive utility practically, a knowledge of them is of great negative use in grounding and bounding our speculations and practice, and in supplying a barrier to imagination and every species of fanaticism and false practice: they are, in truth, the limits which reason prescribes as the conditions of all being, knowing, and doing.

1696. Principles, then, in their widest sense, have a compound signification, as elements, axioms, and laws; natural principles are elements; scientific principles are axioms; and technical principles are rules, canons, or laws of practice: and although art, in conformity with the reciprocalness of all philosophic distinctions, from which the absolute in all things is excluded, acknowledges each of these, yet *technical principles* are expressively of chief consideration in art; and of these we will endeavour to disclose the most general.

1697. Accordingly, it is a universal technical principle, that *all practice in art refers to nature for its model, all theory in art to science; and that these should concur harmoniously in all the productions of art,* whether they be the material works of the *Artificer,* manual artist, or artizan, — the sensible productions of the *Artist,* or professor of art, — or the moral performances of the *Architecton,* or Ruler, as we may, by way of eminence, call the moral artist: each of whose doings may be denoted by the term *energy.*

1698. As all art defers to nature and science, it follows as a principle of principles, and master principle of all art, that *no rule of art shall stand against reason, nor any reason against nature, the fountain of all principles.* And it has happened, according to this principle, that when artists of superior faculties have deviated in their practice from rule to reason, and from reason to nature, whether through spontaneous or acquired talents, they have been denominated Geniuses, Genii, or superior intelligences.

1699. As all art implies design, it follows, as another universal and pervading principle of art, that *whatever is done in art should be done with design;* and, conversely, that *nothing whatever should be done therein at random,* or without design.

1700. When the Greek painter, Nealces, in despair threw the sponge at his picture, and produced the foam of the horse, which he had failed to accomplish by his pencil, he violated these principles, and did that which ought not in any case to be imitated; nevertheless, many things fall out unforeseen in the progress of every work that favour or obstruct its design: whence arises another general rule of art, *that the attention of the artist should be incessantly awake to the advantages and impediments of accidents and circumstances, to profit by the one and avoid the other.* To do which, and to know when he has done right and enough, discover presence of mind, and mark the talent of the master.

1701. It is a further universal principle of art, that *there ought to be in every work a chief or master design, to which all other designs therein should be subordinated, and that there should be a unity of design throughout.*

1702. These principles are of the first importance in *the economy of practice,*— regulating and directing every motion and act of the hand, the eye, or the mind, and conducting, by the shortest and most masterly and effectual course, to the right purposes and intentions of art.

1703. They regulate, also, *the thematism or decorum of art,* to which good taste belongs,—checking the meretricious and exuberant, and subjecting ornaments and accessories to the chief design, to which they are expedients, and not parts; expedient only, when there are defects or deficiencies: and this supplies the universal principle of ornament.

1704. In fine, these principles *adjust the whole conduct of art,* and point to nature for the primary model and process in every case; for art can do nothing of which nature affords not the type: in nature there is nothing, however minute, without design, and there is a master-purpose and unity to which each and every thing refers with absolute and perfect practical economy, decorum, and sufficiency, which designate the *moral of art.*

1705. In all the operations of Nature, it is remarkable that the means employed are always the most simple, and the shortest sufficient to the effect produced: it follows, as a general principle, that *the Artist should always employ the simplest sufficient means, and follow the shortest adequate course, to the accomplishment of the ends required.* Hence, whatever is luxuriant or superfluous in art, is tasteless and vicious, and denotes inferiority; for *perfect art, like nature, does nothing in vain.*

1706. It is by a just elementary antagonism, in conjunction with a like subordination, that Nature produces her most striking effects; it becomes, therefore, a *leading principle of all art, but especially so of fine art, to effect their ends through contrast with subordination:* and hence the power of contrast, conjoined with subordination, in fine art, is apparent not only in Painting and Music, but in the chief productions of skill and excellence in Poetry and Literary art.

1707. For what else, but for contrast and effect, was it that the master-hand of Shakspeare brought those extremes of poetic fancy, *Ariel* and *Caliban*, together in the " Tempest?" Or why did he associate *Shylock* with *Antonio*, but for the sake of this antagonism?—or the fair and gentle *Desdemona* with the dark and grand *Othello?* Or place *Ophelia* by the side of *Hamlet*, but for classic contrast? And if we add to these the subordination of Characters throughout each piece, which constitutes it a harmonious whole, it becomes a world, or a universe! And where did Shakspeare get his rules and practice but from *Nature?* It is through this analogy that the sister arts adopt each other's subjects.

1708. Even in Material and Mechanic Arts, it is by due agency and re-agency, or the opposition of impulsive and regulating powers subordinated to an end, that their purposes are effected; and so, also, it is throughout Moral Art, in the effects or oppositions of Good and Evil.

1709. In all works of art, the chief labour, attention, and *study of the Artist, are to be bestowed upon the principal parts.* To polish and refine in wrong places are to detract from the excellence and end of the work, throughout the whole range of art, from the extremes of the material and moral. Nor are there any greater mistakes in the art and general practices of man than upon this point, and against this obvious principle; since nothing is more common than to begin at the wrong end, and to polish where it is not required: and these even in education, and throughout domestic and political art, in which refinement should begin, and be chiefly bestowed upon the moral parts. Volumes of instances might be adduced of these misapplications of labour and refinement in material, sensible, and moral practices.

1710. We have, in the preceding chapter, distinguished Art universal into three primary classes corresponding to the first relations and chief departments of science, and have denoted them by the terms *Material Art, Fine Art,* and *Moral Art:* of the first of which, *the elementary principle is matter;* of the second, *sense is the element;* and, of the last, *the element is reason, mind, or intellect.*

1711. The technical *principles of art* must be coincident with its relations; and as the relations of art are deducible from those of science, so the principles of art are to be sought in nature, which is the field of all principles, and, like science, is the prototype of art. Hence, also, the principles of art will correspond with the connatural relations of science.

1712. The relations of art and science, we have seen, are external, or the *material or physical;* medial, or the *sensible;* and internal, or the *intellectual or moral:* each of which is subject to distinct principles and regulation.

## SECTION II.

1713. As in the physical department of nature and science, to which Material Art corresponds in relations, *particulars* are principal or predominant, it follows, according to our rule, that *particulars are also principal in material art.*

1714. In this respect, there is no limit to the perfect art of nature, — no degree of particularity and minuteness at which the finishing of the works of nature terminates; nor can microscopic assistance enable the eye of man to discover the end of this mighty progression into minute and particular perfection. How inimitable! How absolutely perfect! How infinite are the *particulars-in-relation* that lie beneath the human skin! But why need we instance this chief of Nature's material works, when the skill and artifice of the lowest of her productions transcend both perception and comprehension?

1715. We need not expatiate in this boundless region: the position we would establish will be granted, without such an induction, by every observing eye and reflecting mind, that *nature particularizes in a principal manner in all her material or physical operations and productions.*

1716. And we deduce from this position, as a chief principle and rule of *material art,* that *the material artificer, in imitation of nature, should aim at perfection principally by particularizing in his works,* whether they be chemical, manual, or mechanical.

1717. Nevertheless, although nature particularizes principally in her physical productions, she does not so exclusively, but, as is evident throughout the three kingdoms of nature, she does so with some deference to the *genera* and *species* of animals, plants, and chemicals, and to physical nature as *a whole.*

1718. It follows, therefore, as a second principle of material art, that *the artificer should also* GENERALIZE, *but in subordination to the* PARTICULARITY *of his works, and with a more distant reference only to the* UNIVERSAL.

1719. We find, accordingly, that in all material works and productions of art, excellence, in approach to perfection, depends upon the *particularity and precision* with which the minutest parts are executed, in reference to some *general* design and *whole.*

1720. It is this care and attention in execution that constitute skill and excellence, good workmanship, and perfection in process, manipulation, and manufacture, throughout the material department of art; and it is herein that the chief difference of art and physical nature lies, that the more minutely we investigate the *works of nature*, the more of perfection we discover; and the closer we inspect the *works of art*, the more we discover of deficiency and defect in the detail.

1721. It is difficult to forbear illustrating, and ranging into this fruitful field of nature and art; but, however tempting the subject may be, such excursions would devolate from the direct simplicity of outline: we must bear in mind that we are indicating rather than recording,—writing an outline, and not a treatise.

1722. There results further, from these relations, a third rule and principle of material art; namely, that *the artificer should particularize without neglect of that which is general and principal in his particular design:* that is, that he should do so without needless attention to irrelative, useless, and inferior parts and purposes.

1723. It is this attention to a due subordination, that marks the master mind in each and every of the arts. It is evident, too, that any substitution of the decorative for the useful in *material art,* would trench upon the *sensible department of art*; and, aiming at a false perfection, it would range beyond the sphere of material art, and burden it with defect.

1724. There follow also from our premises, fourthly, that *particularity should be bounded in material art by utility;* and, finally, that *the highest accomplishments of efficiency and good taste in material art, and perhaps in all art, are eminently dependent upon simplicity,* as before stated.

1725. The latter principle is widely illustrated in many extraordinary productions of the chemical, mechanical, and material arts in general, and is a law eminently remarkable in the works of nature, which are all-sufficient to their ends; *deficiency must not, therefore, be mistaken for simplicity in art, nor profusion for sufficiency.*

1726. It is too commonly the case of early and imperfect art, and also in its decline, to do homage to difficulty and complexity: hence the ignorant Mechanic is delighted with multiplicity of parts, and complicated machinery, imagining excellence to consist in intricacy; hence, again, the rankness and confusion of Sinensian and Louisian taste are marks of degeneracy in art; and hence, also, the tasteless Musician appears to be least affected by simple and expressive melody, and to relish only complex harmony and difficult execution, as evincing skill and science, while they substitute astonishment for feeling and sentiment, and speak only to the ear and the head, but touch not the heart.

1727. It is the same in painting and other arts, — it is the same in all the pursuits of man, — in morals, in politics; and even Christianity, clothed in all its learning, rites, and appendages, is preferred to the simple doctrine and practice of Christ himself. Thus art, which should aid and assist the purity and simplicity of truth and nature, is but too much employed in perverting their genuine, unadulterate, effects and purposes.

1728. There are some general rules of art found in nature, which are no less principles of good mechanism than of good morals and good taste: such are, that *things should diminish gradually from the sustaining point;* and that *whatever sustains, should be of greater power and larger than the thing sustained.* These are exemplified in the beauty and stability of the pyramidal form and spire, — in the grouping of figures, — the tapering column, — the Gothic pile, &c., which diminish from the sustaining point ascending; as the legs of seats, tables, &c. do, or should do, descending; and as instanced in the limbs of Animals, and in various objects of art.

1729. In nature, physically, the mountain, mass upon mass, diminishing,—and trees, in their stems, branches, and twigs, decreasing, — are sufficient examples of diminution from the sustaining point upward; and, in the opposite direction, the human structure, in which the sustaining point is upward, exemplifies the descending form, &c. Finally, and metaphysically, mind, the sustaining point, is greater and more powerful than sense, while both rank in greatness above the material structure. Politically, also, Rank diminishes from the sustaining power; and religiously, God, who sustains all, is greater than all. But we are infringing on the other branches of art, and deviating from our proper design.

## SECTION III.

1730. Again, of *Calliurgics*, or Fine Art, which are principally of sensible, as the above are of material relations, and hold a middle rank and station between the one extreme class of *material art*, and the other more purely intellectual class of *moral art*. They are, hence, principally of *general* reference; for generality is medial to *particularity* and *universality;* of which three, universality is principal in moral art, as we have seen particularity is in material art; in all which respects, fine art is of medial relations.

1731. As material art is more related to external *nature*, and moral art to mind and *science*, so fine art is more intimately related to *art* as a whole, and ranks as pre-eminent therein.

1732. As the elementary principle of material art is matter, so, *of fine art, the elementary principle, or substance, is sense;* and as nature particularizes in all her material productions, so in all her sensible productions she generalizes; that is, their effects are predominantly of general relation, whether they belong to colours, sounds, figures, or feelings: as, in like manner, nature prefers the species to the individual, and the whole to the species universally.

1733. It follows by analogy, as a prime rule and principle of fine art, that *the Artist, following nature, should endeavour after excellence by generalizing in his works and productions, whether they be pictural, plastic, harmonical, or poetical.* It was in thus following nature with refined discrimination, that the Greeks excelled all other people in art and philosophy; thereby escaping from all affectation; for affectation is nothing else than *imitation of art:* and it is, hence, that modern art, inasmuch as it is founded on the antient, and on schools and masters instead of nature, is marked by imitation and affectation, and undistinguished by originality.

1734. Guided, also, by philosophical analogy, we may observe, that, although nature generalizes principally in her sensible productions, she does not so without due regard to unity or universality, as well as to individuality and particularity; whence we deduce, as a second principle of fine art, that *the artist should generalize, regardful of unity, and with subordinate attention, also, to particularity or detail, according to the various relations of fine art.*

1735. It follows, also, that *the artist should not* *generalize in sensible art beyond the bounds of the agreeable or harmonious to sense;* and, as an ultimate principle, it results that *the most exalted effects of skill and taste in fine or sensible art, are dependent chiefly upon sentiment, or the emotions of passive intellect or passion,* which is the highest faculty of sense, and links it to pure intellect.

1736. It is consequent to these principles, that the substitution of either the material, or the moral or rational, for the sensible in fine art, or the employment of these as ends, is a departure from a just subordination, and from its legitimate boundary.

1737. The rendering of the fine arts ends, or any other than subordinate means and instruments in either moral, political, or religious practice, is as false an application of them, and as inartificial, as decoration and fine art are in mechanical and material works; or as mere matter and mechanism, which are incapable of tasteful or sensible expression in themselves, are in fine art.

1738. It is, hence, that an unreasonable employment of Poetry in Religion may draw the latter down to sense; that thus, also, Music, in religious rites and practices, may render religion sensual; and that Plastic and Pictural arts, so employed, have a similar tendency towards Idolatry.

1739. But, when these are properly employed as aids only, fine art becomes as useful an auxiliary in moral art, as matter and mechanism are capable of becoming in fine art. All of which is asserted in subjection to a just analogy and subordination.

1740. The principles of decorum in art, before alluded to,* prevail, also, throughout nature; in which beauty and ornament are expedient to defect or deficiency. Hence, in general, the flowers of nature luxuriate most where the fruits are wanting; not invariably so, for nothing is invariable or absolute in nature.

1741. According to the same admirable ordinance, nature decks the flaws and fissures of the rock with vegetal beauty; nay, she does the same even in the joints and hollows of mural erections of man; and, impatient of discord, she harmonizes the eyesores and dissonances of art. It is in the cracks and flexures of the bark of the nobles of the forest that the ivy and sycophant plants flourish on the defects of the patrons they adorn; and at their joints and excrescences it is that the moss and the mistletoe spring, while the extremity of every twig is decked with its leaf, and time tones down and glazes all the crude works of man, exposed to the influences of nature.

1742. If the storm snap a branch, or detach a limb of a tree, straight nature goes to work to supply the deficiency, and with young, vigorous, beautiful, and abundant shoots, to hide and adorn the defect. There is no bound to this practice of nature, which runs throughout the physical and sensible, and does not stop short at the moral.

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* 1703.

1743. Accordingly, the love of mere ornament in human nature is indicative of defect; for where there is least of natural beauty, it is common to find ornament most affected; or, where beauty redounds with embellishment, there is ground to suspect moral defect: while decorations of simplicity, modesty, and taste, are denotive of propriety and virtue. This beauty of simplicity, in its chief respect, has been thus admirably apostrophized by an eminent dramatic poet:

> " Give me a look, give me a face
> That makes simplicity a grace,
> Robes loosely flowing, hair as free;
> Such sweet neglect more taketh me
> Than all the adulteries of art,
> Which strike my eye, but not my heart."
>
> BEN JONSON.

1744. In all cases, *decoration should be subjected to its principals;* and good taste and good sense require, more especially of the human subject, that dress and ornament should be subordinate to the person, but which, notwithstanding the delicate susceptibility of female sense, is commonly neglected in favour of finery. She, however, who decorates her person upon the principle that fine plumage makes fine birds, should cover her face with her finery; and, of the manner in which faces and figures are debased by injudicious decorations in colours and draperies, bad taste and fashion afford too frequent instances not only in persons, but in pictures.

**1745.** The above natural analogy has established itself in many arts. Whence, in Architecture, &c., mouldings and decorations are disguises to joints, angles, and extremes; and there are no other reasons for ornaments than for connexion or illustration, or for masking a defect: wherever we see the former, we have, therefore, some reason to infer these latter; and there is redundance and incongruity in ornament whenever it is otherwise employed.

**1746.** It is a principle or rule of fine art, then, that *ornament should never be employed except to disguise something disgusting, deficient, or deformed, —to supply a want, or for the purpose of illustration;* for where there is neither distaste, deformity, nor deficiency, no aid or ornament can be required; nor are perfumes requisite but to cover ill scents: so joints and corners, offensive or deficient, are commonly hidden by mouldings and ornaments, and the angles and extremities of things are usually capped with some decoration.

**1747.** This principle extends to writing and eloquence, and, as we have seen, lies widely in nature; every stalk is tipped with its leaf, fruit, or flower: the beautiful exterior of animals,—furs, scales, and plumage,—are but veils of the hideousness to sense beneath them. So general is this principle, that wherever we discover beauty with ornament, whether in works of intellect, nature, or art, we may reasonably suspect disgust, deficiency, or deformity underneath: too often even, morally, the Siren lurks in the covert of emblazoned beauty; and the charms of the pleasures are but too frequently decoys to shame, ruin, and remorse.

1748. This is the *moral principle of taste,* we repeat, that preserves her chaste, modest, and simple,—ensures the propriety of ornament, and averts whatever is exuberant or meretricious; for the proper use of ornament is to decorate, and this it can only do through *decorum,* which embraces a regulation that subjects ornament to all the unities and principles of art.

1749. It is another principle of good taste and fine art, that *whatever in a work is repeated, should have similitude without sameness.* This, too, is universal in nature; no two of the same kind or species, in either of her three kingdoms, being facsimilar or copies,—even reflections and counterparts,—the right and the left are *alike differently.* And *sameness is the poverty of fine art, and of all composition therein:* our streets, our furniture, and our fashions, are often proofs of the absence of this principle, which is allied to a celebrated definition of beauty,—that it is *uniformity in the midst of variety;* and the beauties of the Kaleidoscope, like those of fashion, consist principally in novelty or change, being mechanical and independent of mind.

1750. For other especial principles of fine art, we refer to Outline VI. In illustration of all which, we might adduce the maxims and practices of the various arts, and the general analogy of nature, which confirm it as a principle of all art, but more particularly of fine art, that *there should be in every work a principal or ruling object,—particular, general, or universal,—to which all others should refer with subordination in unity,* as the archeus and key of its harmony; but that particularity is more principal in material art, and universality most principal in moral art.

## SECTION IV.

1751. Finally, of *Eudeurgics,* or MORAL ART, which belong pre-eminently to intellect, as distinguished from matter and sense—they are the ultimate extreme and highest genus of Technology; and as the elementary or material principle of fine art is sense, as matter is of material art, so *pure mind, or spirit, is the elementary principle of moral art.*

1752. Mind itself, which comprehends the universe in its broadest acceptation, has three original powers: the first and principal of which is *Consciousness.* To which must be ascribed, in an especial sense, all Existence, the science of which is Ontology; and it is the science of elementary principles or powers.

1753. Opposed in relation to consciousness is *Volition;* to which must be ascribed pre-eminently all principles of design or doing, or efficiency in action: and its science is Teleology, or the science of art, and the subject of the present outline.

1754. Between these lies *Cognition,* or understanding, to which must be ascribed all knowledge or science; the science of which is Mesology: to which belong concurrent principles uniting will and consciousness, both of which are essential to effective cognition, and the regulation of art.

1755. Of these powers of mind, *volition, or will, is eminently appropriate to art and design, of which it is the efficient principle, and, above all, it is so in moral art, and all ends.*

1756. Now, mind is a principle of unity, and the ground of universal relations; and as nature *particularizes* in all her material productions, and *generalizes* in those of sense, so in all her moral doings she *universalizes.*

1757. That is, in nature there is no principle of moral partiality or particularity,—no preference of favour or distinction, individual or general; but *all moral principle in nature is universal,* on the grandest scale, referring to a whole.

1758. Hence, material nature is subordinated to the sensible, and sensible nature to the moral, even to the high source of intellect, Divinity Himself,—the *Architecton* of all nature, the Paradigm and Fountain of Art.

1759. It follows, by analogy, that *the Ethical or Moral artist should universalize, or act according to the universal principles of nature and reason, in all his moral practices and performances, whether moral, political, or religious;* in which, nevertheless, the general and particular are to be regarded, but only in subordination to the universal.

1760. And it is according to such subordination, the first and *universal principle of moral art and nature, as it respects the individual, that he should act in all things conformably to his highest good or happiness.*

1761. Thus, also, in *particular ethics, the great and universal principle of reason and Christian morality, which relates to the practice of individuals toward each other, requires that we do unto others as we would they should do unto us;* in which the moral artist *universalizes* upon that principle of equity which is dispensed throughout nature universally, by which God himself does *justice,* without favour, to all his creatures, benevolently, or with due individual regard: through whom, also, all things are *decorous* and beautiful in general relation, and by whom all things are perfectly *economised* without waste, want, or neglect, in the minutest particular.

1762. Such are the principles of moral art and action, with regard to the individual himself; and, with regard to the community and the source of all being, there remains yet, as a moral principle for the individual, that he "*render unto Cæsar the things that are Cæsar's, and unto God the things that are God's.* That is, that he be not only individually, but generally and universally just. And the commandments of the *Decalogue* are also universal ethical principles, or practical moral and religious precepts for a people.

## SECTION V.

1763. Again, in POLITICAL ART, which is of general reference to communities, *it is a universal principle of political equity, reason, and legislation, that laws shall be equal, or the same for all the members of a community;* and again, that *justice shall be administered with equality or equity to all.* In these the political artist, or statesman, *universalizes* upon general ground; and the principle of all pure political practice is the good of the whole community: and not of a community only, but of all mankind. "It is no difficult thing (as Socrates said) to praise the Athenians among the Athenians, but we can only call that truly honourable which is honourable every where;"* and it is the same ethically among every people, on account of their vain nationality and the low state of political morality.

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* Aristot. "Rhetoric," book i. chap. 9.

1764. It is also a universal principle of the art of government and legislation, that *the aggrieved shall be compensated, and the injurer shall atone;* or that *the laws of a community shall be administered with impunity to the aggrieved, his grievances redressed, and that the delinquent shall retribute or compensate the injured, and be punished.* Nevertheless, Art and Practice can only approach, without attaining, the perfection of principle.

1765. But it belongs to Political Art to make equal laws, and *to do justice* in the mean; and if the retribution and *punishment* of the evil-doer and delinquent, and the enactment of laws for this end, be principles thereof on the one extreme, it belongs to it, also, on the other extreme, to enact laws of *reward* for political and social merit and well-doing. And although the latter has been no direct end of governments, yet, in aid thereof, patents have been granted for discoveries of *public utility*,—pensions and protections given to the learned, who *instruct the public* by their works,—and honours and riches conferred for *military services*. Legal rewards have also been enacted and proclaimed for particular purposes,—such as taking an enemy, catching a thief, destroying wild beasts, and for the discovery of the longitude, &c.: but hitherto there has been no *code of reward,* as there have been codes of *punishment.*

## SECTION VI.

1766. Finally, in RELIGIOUS ART, which is of *universal* reference, comprehending all individuals and communities, it is a universal principle, that *the religious artist should universalize in practice, with reference not to individuals only, nor even to any community alone, but in universal reference to all mankind,* there being but one God and Father of All.

1767. This is the moral of the Universal Being, who never sacrifices the individual but for the good of the species — the species only for the good of the genus — and neither of these, in any case, but for the good and preservation of the *whole;* which He constitutes from His being, upholds by His power, regulates by His wisdom, and, above all, felicitates by the *benevolence* of His purposes.

1768. It is, hence, that throughout animate nature, in the preying of one upon another, the inferior order and species is constantly sacrificed to the superior; and this principle of universal subjection regulates all mutation in the three kingdoms of nature, from the lowest existence to the highest consciousness, so as to accomplish, upon the whole, the greatest measure of good in unceasing progression.

1769. It follows, as a common principle from the above, that *the moral artist should universalize with various regard to the individual and generality, according to the various relations of moral art, to particular morals, politics, and religion.*

1770. To *individualize* in morals, is to be grossly narrow and selfish: the infant does so in grasping everything as its own; but no sooner does he concede and *generalize* in such respect, than he expands, and departs proportionably out of his gross self; and, finally, it is in *universalizing* that he becomes *equitable:* whereon are founded the just notions analytically of property, right, and all ethics, terminating in the identification of self with all being, in unity with God.

1771. It arises, in the next place, according to a just analogy, as a moral principle, that *any predominance of fine art, in the practices and performances of moral art, is as illegitimate and out of place, as decoration is in material art, or as the prevalence of the material and moral are in fine art.*

1772. If the mind regard fine feelings excited by music, painting, or poetry, or accomplishments, modes, or polished manners, as moral good, the purpose of moral art will be thereby vitiated,—if it regard public shows, parade, and ostentation, as political ends, true policy or political art will become corrupted,— and if the Temple of religion, the work of the Architect, aided by all the decorations and allurements of fine art, and dedicated to

Divinity, be itself Idolized as Holy and Divine, the proper object of religion will be lost sight of, its end reversed, God dishonoured, and man degraded. Nevertheless, all these arts may be employed with moral advantage, but in subservience only, as means to true moral, political, and religious ends.

1773. Nor is there any total repugnance among these arts; but decoration must never infringe *utility* in material art; nor the material and moral overlay *sentiment* in fine art; nor, above all, should the latter be substituted for *conscience* in moral art: for the utility of the first, the fine sentiment of the second, and the Divine consciousness of the last, have each its appropriate satisfaction, which cannot be substituted either for either, but they become perverted.

1774. And, in this view, the genera of art may be distinguished as *Arts of Utility, Arts of Sentiment,* and *Arts of Conscience:* the determinative of the first being *motion;* that of the second, *emotion;* and that of the last, *motive.*

## SECTION VII.

1775. As NATURE is the performance of *All-perfect mind,* that art will be the nearest to perfection which approaches nearest in principle to the method of nature; and as all art and purpose presuppose *design*, so only are *rational beings* capable of *art*.

1776. The instinctive operations of some animals, inasmuch as they are uniform in design, and uniformly those of their species in all times, are presuppositive of *one only Designer:* they are, therefore, the operations of the Supreme mind in nature, called *instinct*, and not the art of animal reason.

1777. From the same source is derived the art of man, more immediately through intellect, by participation of the universal reason; and hence it is that nature is the true school of art: whence it arises, also, that the representations of art by art are inferior to the representations of nature.

1778. Accordingly, pictures representing fine architecture, or other beautiful works of art or fashion, however original or well-executed, resemble copies, and are less effective and less esteemed than the wild, rustic, and picturesque objects of nature, thus represented; because, in the former, we see art at second hand, through the medium of fiction, and a step lower, whereby the object, the art, and the artist, become in a manner degraded.

1779. Since Nature is the work of the Universal Being, God, it is *Theurgy* in a proper sense, and is *the perfect art of perfect science,*—the production of Omnipotence directed by Omniscience, with a design to all good; and since man is part of nature, nature is the only source of human science and art, and art is capable of doing that only which exists discoverably in nature: science, practice, and imitation of nature are therefore the true means of art.

1780. From the deficiency or insufficiency of art and science, as compared with nature, it arises as a universal maxim, or *principle of good taste and practice in art, more especially in fine art, that all they do should be, or appear, natural.* Whence, conversely, *affectation or artificialness, and display of science, and whatever is false or extravagant, are to be shunned* as violations of taste and refinement, which are the moral of art; and hence, also, according to a well-approved maxim, *it is the perfection of art to disguise art and artifice in every work:* these principles are also conformable to the decorum of nature, in clothing and concealing her means for the sake of her end, and belong, therefore, to the decorum of art.

1781. It is obvious, also, that as science refers to the mind, so art refers to the body; and that as *thought or energy of mind* is the principal and proper source of discovery and improvement in the one, so is *practice or personal energy* in the other: yet as art tends either towards the ethical or the physical, it varies in relation and dependence upon thought, on the one hand, and practice on the other.

1782. As in the physical department of nature and science *particulars* are principal, as *generals* are in the esthetical, and *universals* in the ethical, so we have seen that these relations prevail, in like manner, in the corresponding departments of art; whence the material artist *particularizes,* the sensible artist *generalizes,* and the moral artist *universalizes;* and hence the physical artist practises according *to recipes, or particular and fixed formulæ,* the esthetical artist practises upon *general rules* in fine art, and the ethical, or moral artist, upon *universal precepts* or principles; not exclusively, indeed, in either, for we have seen that some reference to, or participation of, each of these, is essential to the being, progress, and perfection of every art, and there is inherent in every complete work *a principle of unity, generality, and particularity.*

1783. Not only do the principles of art, briefly and imperfectly delivered in these sections, belong to the course and practice of nature, from which they are strictly deducible, but they are also confirmed by the most eminent and successful practice in each of the prime departments of art.

1784. In physical and material art, no people have surpassed the British; and in no country have they been practised with such *particularity, mathematical precision, simplicity, and sufficiency of principle.* In sensible and fine art, no people have equalled the antient Greeks, who carried them to transcendent excellence, upon *principles of general* *analogy*, association, and subordination; and, in moral art, the practice of Christianity, throughout the world, has been of chief excellence, and has done much toward ameliorating the condition of mankind in particular morals, and in general policy, upon *the ground of a universalizing religion;* although, on these heads, much remains in its power to be accomplished.

1785. Of the degrading and adverse powers of false principles in moral art, we need no greater proofs than may be deduced from the selfish individualizing morality of a Chesterfield or a Mandeville, — the crafty and lawless policy of a Machiavelli, and the religious domination of a Mahomet.

1786. But not only do the above principles regulate the genera of art respectively, but in the highest of all respects they extend to the universe itself, comprehending all things subordinated to one principal, wherein the hand of design is everywhere apparent, and God himself manifest throughout.

1787. It is the same in every individual design; be it a poem, a picture, a melody, a machine, a book, a building, a pleasure-ground, or any other device; it should, we repeat, have *a principal to which everything else it contains is to be subordinated, as a part to the whole:* the parts of the parts even should partake of a like subordinated variety in unity or universality, having extremes and mean, — a beginning, a middle, and an end;

and, with all these, a reference also to the faculty or sense it addresses: for all art is addressed to active or passive intellect, either separately or united.

1788. If, for example, the design address the eye, it becomes a principle that *the work under every change of view should present something varied in relation, and agreeable to vision;* and the same principle applies to whatever sense or faculty the design belongs. Thus, in looking downward in works of taste and art, *diversity* belongs to the object, as *unity* does in the upward view, while in the mean they are subordinated; and the regulation of all art springs from the relations of a particular and general to the universal.

1789. But as none of the relations of science are absolute, *neither are any of the rules and principles of art absolute,* but admit of endless variation, according to relations; and it is in the nice adaptation or adjustment of these varied relations,—as in the regulated varying and breaking of colours and sounds,—that taste, tact, genius, and ability, produce and display the finest efforts and effects of art.

1790. The last and inclusive principle of all art is, that *there should be, as much as possible, in every work an undeviating harmony of all its parts, particular and general, and of the whole;* and it is this entire accordance that renders the doings of God in nature so exquisite and so effective of their ends, and the universe so perfectly beautiful and good.

1791. It does not follow that discordance is not to be employed as a principle of Art, for thereon depend all effect and contrast; but *there must be no unresolved discordance:* for from the resolution of discordance it is that harmony springs. It is, therefore, in the reconciling of opposite powers that all great, beautiful, and useful works are produced; and it follows as a principle, concurrent with the above, that discordants are to be employed for augmenting the effects of art, as subservients, but never as principals, and always subdued or subjected, disguised and overpowered, by their archeii.

1792. So much for the principles of art: nevertheless, we are far from imagining that the principles and regulation of art proposed in this brief chapter, constitute the perfect and entire code of technical practice; to deliver which is neither in our power, for the rules of art are unbounded: nor is it in our intention, which is throughout these outlines to indagate *the universal,* and to propose an improved mode of developement, illustrated only by occasional instances.

1793. Our present aim will, therefore, have been accomplished, if we have rendered it as universally evident as it is generally apparent, that all arts are related,—that they have certain master principles which are connected, and certain ends that are united; and if we have also established the inference that they will infringe less on each other, and tend with greater freedom and certainty toward perfection, when their just regulation shall be founded upon their true relations.

1794. To conclude: he who knows the regulations of Nature, and has acquired the just rules of Art, has open to him fields of pleasure and enjoyment, abounding with the most beautiful objects and exercises, and contemplations of universal extent and infinite resource, from which he who is ignorant is shut out, and of which he little thinks, or can at all imagine, the true value.

# CHAPTER III.

## TELEOLOGY.

### PURPOSES OF ART.

### SECTION I.

1795. Of the relations and principles which belong to art, and of the necessity of a just comprehension of them to correct practice and progress therein, we have briefly spoken in the preceding chapters: it remains only, therefore, that we treat, in like manner, of the *purposes*, which are of chief importance in art; for the object of every art is some *end* or design: and this subject, as a whole, involves the end or art of arts, or Teleurgy, and the science of ends, or TELEOLOGY.

1796. We have shewn, in the commencement, that the characteristic of all design is *Good*, even malverse design having some mistaken good for its object; but *genuine good, or right, is the fulfilment of an end which harmonizes with universal good,* and inasmuch as any end is deficient of this harmony, it is *evil.*

1797. It follows, hence, that the good of ill design is at best partial, defective, discordant, and mistaken: it follows, also, that genuine good belongs intimately and throughout to knowledge or wisdom; and that the former is the offspring of ignorance, miscalculation, and folly: that the one operates upon the ground of genuine art; the other, at the best, upon craft and cunning; between which, and perfect art, the degrees are infinite.

1798. We have also shewn that good is precisely as various, analogically, as are the relations of art,—that the particular good and end of material art is *Beauty,* in its broadest sense,—that the general good and end of sensible art is *Pleasure,*—and that the universal good and end of moral art is *Happiness;* not exactly in the common or vulgar acceptation of these terms, but in senses justly extended and limited.

1799. In such senses we attribute Beauty, as a physical and material end, to *external* things; happiness, as a moral and intellectual end, to *internal* things; and pleasure, to the *medium:* and hold that the terms beauty, pleasure, and happiness are metaphorically convertible; and that each may take the generic term, harmony, as physical, sensible, or moral: of which more especially under separate heads.

## SECTION II.

1800. First, therefore, of **Beauty** or **Pulchritude**; which term comprehends comeliness, fitness, utility, and finishedness, or sufficiency to an end; and denotes the good, end, or purpose of material art and external nature, whether organic or inorganic. . We may, therefore, briefly define Beauty to be suitableness to a pleasing or pleasurable end; in which sense we herein employ the term *Beauty* as literally denoting an attribute or effect of the object, in reference to, and not as belonging to, sense or understanding, and regard the term as metaphorical when applied as inherent to subjects of sense or feeling, which are *pleasant*,—or to subjects of moral approbation, which are *felicitous;* the term Beauty is, therefore, not positive, but relative: and hence the indefiniteness of the term in its ordinary and various acceptations.

1801. We have seen, in a variety of aspects, that the essences and elements of all things,—material, sensible, and moral,—are intellectual; and, hence, there is no essential beauty inherent in things; which things afford, nevertheless, the essential conditions of beauty in concurrence with passive intellect or sense: whence, although we refer the permanence of beauty to the object, it differs essentially with the modifying subject, or sense, to which its necessary conditions are presented in the things. Hence, there are certain natural conditions of beauty in things which are general and universal, inasmuch as men, according to their nature and constitution, are similar and agreed; and as it is in reason or intellect alone that men are perfectly similar, so, in the cultivation and perfection of this faculty generally, is the general agreement of men in taste and beauty to be found: for the conditions of nature are uniform and immutable in all things. Hence, in fine, Beauty is strictly an effect of the active concurrence of things, with passive intellect or sense; that is, it is a *view* between the one as *object* and the other as *subject*, the conditions of which are permanent in nature, and variable only with sense, or the organ, as qualified by nature or cultivation.

1802. The term *Beauty* can be extended to moral subjects by rhetorical license only, as was done by the Grecian philosophers, and Plato in particular, who gave to the beautiful [το καλον] a much wider signification than ours, extending even to Divinity; while from this extreme sense it has been degraded by later writers to the symmetry of figure alone; and, in its common acceptation, it has been confined almost exclusively to figure and colour only,—or even to figure alone,—or, in the last and lowest degrees, has been contracted to a peculiar figure, or a line of beauty. Nor are those theories which attribute beauty to figures essentially beautiful,—to proportions permanently so,—to unity amid variety,—to utility,—to common forms,—to opinion or common sense,—to mental associations,—or to a composition of any or all of these, entirely satisfactory or unexceptionable.

1803. Aristotle says, there are three things through which any thing is sought or avoided; namely, utility, beauty, and pleasure, and their opposites. Of these, utility or fitness is the matter or principle of beauty, and pleasure is its end; while beauty, in itself, is the connecting medium of pleasure and utility: and, hence, what gives us pleasure, or affords us use, we call by transposition beautiful; or what is beautiful or useful we call pleasant; and what affords pleasure and beauty we regard as useful: for all correlatives are thus convertible, participable, &c.; and hence we often express ourselves as *happy* when we are only *pleased.*

1804. The same natural relations that regulate all science, and all art, regulate, also, the purposes of art, and subject them to the same distribution in endless subordination and universal analogy. Hence, *Beauty or pulchritude,* by which we distinguish the purpose of external or material art and nature, is of three kinds, in correspondence with the three kingdoms of external or material nature.

1805. The first of the three may be termed *Inorganic Beauty,* extending to all the qualities of mere matter,—such as colour, sound, taste, &c.—by which sense is affected; secondly, *Organic Beauty,* subtending all the beauties of material forms and composition, &c. most diversely found in vegetal nature; and, thirdly, *Vital Beauty*, comprehending figure, motion, expression, &c. belonging to animal nature: whence a writer of genius on this subject — himself an artist — has philosophically inferred, that insensibility to beauty is "defective animation." *

1806. The above classes combine harmoniously in endless variety: by analysis they also resolve, according to our principle of universal distribution, into external, medial, and internal relations. Thus, of *Inorganic Beauty*, or the beauty of mere matter, there is, in external relation, material beauty, of *appetitive* reference — such as odours and sapors, &c.; in medial relation, there are material beauties of *sensitive* reference — such as colours and figures, &c.; and, in internal relation, there are material beauties of *intellective* reference, expressive to the passions, affections, and sentiment, or passive intellect — such as of musical sounds, and other harmonic combinations of material things.

1807. The like relations hold of *Organic Beauty:* of which there are beautiful fruits, &c. which address the *appetites*,—beautiful flowers, &c. which address the *senses*, — and beautiful nature universally, which affects the *mind* through feeling, passions, and sentiment; and all these hold as relations, not absolutely distinguished, but variously combined and subordinated.

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* Donaldson on Taste, &c.

1808. Thus, also, *Animate*, or *Vital Beauty*, possesses three general classes or characteristics, determined by the internal, medial, and external relations; and, regarding the human figure, as comprising specifically the perfection of all animate beauty, as sublimely contemplated by the Greek Sculptors and Painters, and successfully imitated by modern Artists; and regarding it, also, according to the variation by which all animate species are distinguished, it will be found of three kinds, or classes, in this respect also.

1809. Of these classes, the first is that of *Feminine Beauty*,—graceful, fair, and delicate,—as generalized in the Medician Venus, &c.; the second is *Masculine Beauty*,—grand, powerful, energetic, and majestic,—as in the Jupiter of Phidias, the Farnesian Hercules, &c.; and the third is an intermediate class, or *Neutral Beauty*,—elegant, symmetrical, and refined,—as in the Belviderian Apollo, the Antinous, &c.

1810. A like analogy is exemplified musically in the classification of the human voice; and also in colours, and throughout all nature, animate and inanimate, regarded as beautiful.

1811. If, again, we analyze, in universal relation, the various species of animate beauty, we distinguish, first, in external and physical relation, *the Beauty of Desire*, or appetite,—the lowest grade of animate beauty; in medial and esthetical relation, *the Beauty of Admiration*, or the simply beautiful to sense; and, thirdly, in internal and ethical relation, *the Beauty of Affection, Approbation, or Love,* or moral and intellectual beauty: to the first belongs health, in the object; to the second, colour, figure, symmetry, &c.; and, to the last, expression and sentiment: but to each belongs, nevertheless, some participation of the others. Thus, animate beauty is the object of desire, admiration, and love, attendant on pleasure: whence the God of Love has been variously feigned by the Poets to be the offspring of beauty,—the Cupid of Venus.

1812. It appears, therefore, that each genus, and class or kind of beauty, is of triple relation to appetite, sense, and passion,—or to sensation in its universal acceptation; and that beauty is of infinite variety and composition: whence arises, again, the indefiniteness of the general term beauty in its current acceptation.

1813. Hence, also, it has been disputed whether beauty be any thing, positive or absolute, or real or abstract, or conventional or prejudice, or whether it be merely relation; and we have maintained, without doubt, that *beauty is entirely relative, according to a harmonic principle.*

1814. Among the Greeks, who appear to have rendered beauty more tangible and positive than any other people, there appear to have been certain relative and abstract principles established concerning it, such as *the attainment of middle* *forms*, individually and abstractly,—*the combining of many such forms generally and harmoniously in one subject;* thus dispensing *individually* that conjoint perfection which nature has assigned only to the *species*, and producing consummate works by converting the real and diversified of nature into the ideal and abstract of art.

1815. It must be kept in view, nevertheless, that beauty belongs principally to sensible objects, and that, therefore, sense must be appealed to concerning it; without which, beauty may be subtilized, abstracted, and idealized, till the natural recognition thereof is lost. There is, therefore, a constant necessity for the artist's recurring to nature, as the Greeks did in the study of general forms and abstract beauty, and that he rest not till he has discovered her laws.

1816. There is also a metaphorical and metonomical use of the term Beauty, by which it is applied to sensible and moral signification, more especially in its higher reference, in which use it was much employed by the Greeks. Thus Socrates, in the Republic of Plato, remarks that " it ever was, and ever will be, deemed a noble saying, that *whatever is beneficial is beautiful*, and whatever is hurtful is base."

1817. It is to the common mistake of regarding as absolute the things which are only relative, that we are principally to attribute the variety of opinions, and the diversity of discussions, concerning beauty, &c. *All good is relative:* beauty is good; and that which is beautiful or good in one respect or relation, is deformed or evil in another: just as the same sound in music is, under different relations, a concord and a discord.

1818. Beauty is also as various as its objects. On the one extreme is the *beauty of utility* or fitness, which is material beauty; on the other extreme, is the *beauty of sentiment,* which is the beauty of mind: between which, as between matter and mind, lies the *beauty of sense,* which is beauty in its principal reference or respect, as we have already remarked.

1819. Beauty, in its ordinary sense, too, is relative; for there is a beauty belonging to every sensitive creature by which it is affected. The Toad and Viper have beauties which are as much of the first order in their special relations as human beauties, or those of general nature, are to man: he—the very being whom the viper and toad have reason to regard as the perfection of ugliness!

1820. Whatever is sufficient to its relative purpose, and proper end sensibly, is beautiful; and it is to narrow and selfish views of beauty, no less than to the regarding it as absolute, that the common notion of beauty owes its indefiniteness and discordance, not only in popular opinion, but in literature.

1821. It has contributed, also, to the unsettled state of this question, that *beauty* has been confounded with *utility* and *sublimity;* between which there are these essential differences, that utility belongs principally to the external, and that sense is transcended by the sublime; so that, in fact, beauty is situate between them: but beauty is always bounded, while the grasp of sublimity is not perceptible.

1822. Hence, there may be utility in a matter of fact, which, addressed to sense, may be beautiful, or, transcending it, may become sublime. Thus, there is sublimity in a blade of grass, and in every work of creation to which imagination is inadequate, no less than in the celebrated example of *intellectual* and literary *sublime,* the creation of light, as declared by Moses:

> " God said, Let there be light! and there was light."

which Milton thus renders *sensible* and *beautiful:*

> " God said, Let there be light! and forthwith light ethereal—
> First of things—quintessence pure—
> Sprung from the deep, and from her native east
> To journey through the airy gloom began,
> Spher'd in a radiant cloud."

1823. The *sublimity* of the original depends upon mass, condensation, and transcendence, still more apparent in the earlier version of Wicliffe,

> " God said, Be light! and light was."

The *beauty* of Milton's paraphrase depends upon definition and sensible diversity: *beauty, utility,* and *sublimity,* are, nevertheless, correlatives, of which there cannot be absolute and entire separation. Upon the above principle, and the greatness of their subject, it is, that the Hebrew Scriptures abound with sublimities.

1824. It was according to the universal relations of good, that the Universal Being, " God, saw all that he had made, and beheld it as very *good or beautiful.*" It is hence, also, that the more the mind is expanded by cultivation and the *liberal arts,* the more beautiful the universe, and every thing in it, appears. A regard for beauty is hence, also, of high moral importance, promotes a disposition to be pleased and to please, and conducts the mind toward happiness as its end.

1825. Hence, too, beauty strikes upon the heart, producing a moral impulse, and communicating, according to the Spartan benediction, "*the beautiful to the good!*" Hence, also, *taste,* however much it may be abused and misapplied, is, in its best respects, a religious sense; and that the man who has the purest and most enlarged perception and conception of *beauty and good,* approaches nearest intellectually to God. How pure and pathetic is the taste (if we may so call the Divine regard for beauty, innocence, and good) with which the Redeemer said, " Suffer little children to come unto me, for of such is the kingdom of God!"

1826. Men, however, intent upon the absolute, and framing laws for nature and each other, instead of seeking nature's laws, have aimed continually at establishing in art *conventional beauties* and *artistical canons,* as they have aimed, through ignorance or expedience, at establishing conventional moralities, political partialities, and religious Idolatries; for thus *Models are the Idols of Art.*

## SECTION III.

1827. Again, of PLEASURE, or plenitude of sense. As the *principles* and *relations* of the universal system rest upon each other in regular gradation, from the lowest physical to the highest intellectual nature, so do also its *purposes.*

1828. Hence the *Beauties,* which are the purposes of material art, are the foundation and matter of the *Pleasures,* which are the end and purpose of medial and sensible art; as, finally, the pleasures are the foundation and matter of *happiness,* and not, as vulgarly regarded, happiness itself, which is the good of moral art, mental satisfaction, and the ultimate end and purpose of all art: so that in art, as in science, where one genus ends another begins.

1829. And as beauty has a triple relation to appetite, sense, and passion or affection, so *Pleasure,* plenitude, or sensible good, has, in like manner, three genera or classes, referring to the internal, medial, and external.

1830. First, in external reference, are the *Appetitive Pleasures*, which belong, as ends, to the various desires, as distinguished in a previous outline; whence their variety may be deduced without repetition: and these are founded principally on *material beauty*.

1831. Secondly, in medial reference, are *Sensible Pleasures*, which belong as purposes to the various senses, as tangible, visual, and oral; to which belong the pleasures of fine art, as distinguished in our outline of Esthetics: and these pleasures are founded principally on *organic beauty*.

1832. And, finally, in internal relation, are the *Pathetic Pleasures*, which are the immediate purposes of pathetic sense, or the passions, affections, and internal feelings; and these belong to the expression, sentiment, and signification of fine art, their poetry, and pathos; and to the material part of intellectual and moral art: and these pleasures are founded principally on animate, or *vital beauty*.

1833. Of all these classes of *beauty and pleasure* as related, the pains and deformities are corresponding antagonists,—the counter ends of evil, and negations of good, as darkness is of light; and they act as discords do in music: so that, as without some discord there can be no harmony, without some deformity there could be no beauty; nor could there, without some pain, be any pleasure: and so, finally, in the ultimate of all ends, *there can be no happiness without some misery or regret.*

1834. It is hence that, in the latter case, we invariably find the too-blessed,—those with whom the goods of life most abound,—sickening into sorrow, and magnifying trifles into troubles, through discontent and satiety, unconscious that ailments, wants, and annoyances, are essential, as shades, contrasts, and discords, to give value and effect to so much light and enjoyment,—incessantly craving after excess of pleasures, which terminate in physical evils, pain, and remorse,—aliens to the beauties and blessings of life, which lie at its moral foundation.

## SECTION IV.

1835. Finally, HAPPINESS, felicity, or moral good, is *intellectual* harmony, satisfaction, or sufficiency, as pleasure is sensible harmony, satisfaction, or sufficiency of sense, and beauty is material harmony or sufficiency; and there are three kinds of mental satisfaction or happiness in the same reference and relation to the external, medial, and internal, as those by which the physical beauties and sensible pleasures are distinguished; and as the *beauties* are the matter of pleasure, so are the *pleasures* the matter and means of *happiness*.

1836. That is, *Happiness* is the end or effect of the right ordering of the pleasures, dependent upon the passions, senses, and appetites, or of the order and harmony of passive intellect with active intellect, including the will and passions of man. And of the three modes or classes of happiness, the *external* refers principally to the appetitive pleasures, the medial to the sensitive, and the *internal* to the pleasures of the passions and intellective affections.

1837. The first of these, or *External Happiness*, is the intellectual satisfaction which arises from the order and harmony of external things, even from the lowest wants and appetites to the higher physical, sensible, and even moral relations; for, surrounded by physical evils, of war or strife, want or famine, sickness or pestilence, the mind is destitute of that satisfaction which it derives from the contemplation of external good or harmony.

1838. So, again, *Medial Happiness* arises from the intellectual satisfaction consequent to the right order and harmony of sensible things; for, when afflicted by pain, discord, or disturbance,—or unsupplied with proper objects of sensible regard and affection,—or under deprivation of our pleasures,—or in the contemplation of any kind of animal suffering which does and ought to produce *commiseration*, the mind is deficient of that satisfaction which arises from the accordances of passive intellect, to which belongs all medial good.

1839. And, finally, *Internal Happiness*, the most pure, perfect, and intellectual of the three classes, belongs to that intellectual satisfaction which flows from moral harmony or virtue: for, in the presence or perpetration of moral discord, vice, or crime, the mind is destitute of that best, highest, and most spiritual of all satisfactions which accompanies the harmony and accordances of active intellect or will with consciousness or conscience, which constitutes the most perfect internal good; that is, *Moral Happiness* or *Felicity*, the last and great end of all art, in the absence of which neither beauty nor pleasure can be enjoyed with satisfaction: for each species of felicity is participant of, and subordinated with, the other two, and in certain measure concurrent in their various and conjoint purpose.

1840. According to the same relation, *Moral Happiness*, the highest and purest of the three species or classes, has, in external reference, individual or simple *moral happiness* in respect to individual mind; it has, in medial reference, general or *political happiness*, in respect to the community of minds; and it has, in purely internal relation, universal or *religious happiness*, in reference to universal intellect and God.

1841. Our view, in the first place, involves the happiness of man as a compound of body, sense, and intellect,—and terminates in the highest species, pointing to that perfect or pure happiness which is exalted above body and sense, and is consistent alone with pure intellect or spirit, wherein happiness identifies itself with *holiness*.

1842. This is the *summum bonum*, or perfect good, so much sought by the antient Sages and Philosophers, to attain which is the chief and final end of man, and that which principally distinguishes him from all inferior beings; which are, indeed, even in the meanest, formed for beauty, and animated for pleasure, but are altogether incapable of that extreme good or felicity which depends upon the higher operations of intellect, and is perfect alone in pure spirit.

1843. To which belongs, also, a passive order of intellectual goods or happiness, dependent upon passive intellect or understanding, distributable, also, into species, like the above; and this kind of happiness belongs to that intellectual satisfaction which flows from the consciousness of knowledge, which is internal wealth, or appropriation of the world, uniting or harmonizing the mind with the universe; and, accordingly, in doubt and ignorance there is mental craving, dissatisfaction and dejection, or unhappiness: for of that of which we have no notice, we are not properly ignorant, but oblivious,— there is, therefore, no " contented ignorance."

1844. As ethical *virtue* is the chief principle of nature, and *truth* is the highest mean of knowledge or science, so *happiness* is the highest good and chief end of art,—the ultimate purpose of universal design; and all three are estimable in themselves, but principally so for their ends. The man, then, who lives according to nature, rightly understood, is virtuous; or, according to truth and science, is wise; or, according to the best purposes of art, is happy; or, if he live according to all these,—being virtuous, wise, and happy,— he will have attained the perfection of his nature, and felicity.

1845. All things tend to their chief end, and every man would be happy if he knew how; and in all he does he aims at his own good, to the best of his knowledge; and if he miss his end in any case, it is through ignorance of his means: knowledge is, therefore, pre-essential to good, to virtue or right doing, and to happiness; and to know wherein happiness consists,—to be happy and to make happy,—are the principal objects of life.

1846. As good is the object of all design, or Art, and beauty is significant of external or physical good, whenever the term beauty is applied, whether it be to subjects of nature, art, or science, the attribute of design is also implied: every beauty ranks, therefore, in the ratio of its design, and the more exalted the subject or science is to which design in any work of art belongs, the more exalted will be the beauty and purpose of the work; and it is the same with regard to the rank and importance of the pleasures, for their relations are coincident; so much so, indeed, that their terms are often substituted for each other: whence another ground of confusion concerning beauty, pleasure, and happiness.

1847. Of all Arts, subordinate to the universal, the *ethical* are the noblest, and their ends the most important and sublime; and it is a consciousness of this truth, impressed upon the nature of man, that prompts him universally to seek *moral, political, and religious good;* yet, by a sad fatality, a deplorable ignorance, or lamentable perverseness, he seeks these ends disregardful of, or confounded with, their means and principles: the consequence of which is, that, while all men instinctively pursue these ends, most fall short of, and none can be said fully to attain them; yet are they within the reach of man, and to be regarded as chief among the purposes of God in the creation. We have already attributed this moral failure to the practical error of authorizing principles as moral ends.

1848. Of these arts, *Morals* are the foundation, without which the purposes of *Politics* and *Religion* can never be realized; yet is religion, by working downward in moral art, often rendered subservient to politics, and polity instituted to enforce morality: whence their proper ends, if not entirely frustrated, must be very inadequately accomplished, till this order of *practice* shall be inverted, and the superstructures of practical religion and politics raised upon the basis of practical morality; and this must become the practice of the individual ere it can rise to the many, and regulate the whole, so as to accomplish the exalted purpose of universal benevolence, and return a tide of felicity to each individual.

1849. Yet, even independently of political and religious good, it is wonderful indeed that *moral art* should not be more justly and highly appreciated, and sincerely practised, even from the interested motives of private and particular advantage; and that it should not thence, by the influence of example, stimulate individuals to emulation, excellence, and mutual encouragement in practice.

1850. To excel in *material art* is highly profitable, and bears with it the delight of exercise; to excel in *sensible art*, gains honour and reputation, and a train of graces and pleasures attend upon their practice; but to excel in *moral art* is infinitely more exalted and ennobling, — aspiring even to Divinity, — while it calls the highest faculties into purer action, and its practice is attended by *happiness*, — the reward of conscious worth — the calm dignity of virtue — the serenity of conscience — the glowing exultation of benevolent feeling — the merited applauses of the good and wise, and all the subordinate satisfactions that belong to moral excellence. This is a race in which all may win the prize, and in which each man's gain becomes every man's good: a type of the happiness of holiness.

1851. Such are the advantages of *moral art*, even in the lowest aim of private morality; and without moral order in the mind, not only is a man incapable of justice and goodness to others, and of that self-satisfaction upon which his own happiness depends, but moral action and reaction equally fail him, and he becomes incapable of excellence either in virtue, science, or art: the progress of each being essentially dependent upon the right order of the mind; for "light is sown for the righteous, and gladness for the upright of heart." *

1852. If such are the advantages of *moral art*, what shall be said of the superior benefits which it is in the power of *political art* to bestow, and of the nobleness of its practice? and, above all, how shall we designate the sublime practice and immortal promises of *religious art?* If the first has for its object and its end individual happiness, and the end and aim of the second is general felicity, the transcendent purpose of the last is universal beatitude, consummate and immortal good: in fine, that purely intellectual and perfect bliss by which God alone is distinguished, and of which Godlike felicity man can only become a partaker through religious art and the love of God, which bring him into communion and similitude with his Divine Original. Whence, according to the apostle, "*To those that love God, all things co-operate for good.*"

1853. Beyond this, where speculation rises anagogically into the design and ends of the creation, the immortal destination of man,—the Divine Theurgy,—the art and purposes of God, there arise visions of beauty and good in which the mind has no hold but through pure analogy, in the exercise of which reason totters, the mind becomes transported, and the winged soul, struggling to escape from the body, finds refuge and rest only in the promises of Divine revelation.

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* Psalm xcvii. 11.

1854. As light, the analogue of truth, is unknown in its elements, and the first principles of nature and philosophy are given conditions or powers, the ground or essence of which is prior to all human knowledge or conception, so is the last and highest of all human purposes suspended beneath, and in reference to *an ulterior purpose,* out of the bounds of human comprehension: the prior essence and the ulterior end lying equally beyond the sphere of man, who can in no real sense whatever transcend his system.

1855. When, therefore, we inquire into the nature of the first conditions of things, we enter the field of visionary speculation; and we seek, also, in vain, through interminable analogy, the end of ends, in the boundless regions of fancy. The question is, in either case, equally resultless and absurd, propounded as it is by a being from whom the beginning and the end are alike hidden and removed; who, in the first inquiry, demands the conditions of the unconditional, and in the latter requires an interminable end, the sciences of which, if they have sciences, are hypophysical and metatechnical, but not human or philosophical;

for philosophy is every way bounded by human consciousness or self, agreeably to the celebrated precept of Thales, consecrated in the Temple of Apollo.

1856. Sufficient it is, nevertheless, to *a purely relative being*, that he can know all his relations, and that they are founded on stable principles, and designed for purposes universally good: secure of which, his hopes and wishes may be enshrined by faith and content, and all natural and particular wants and evils may be endured without murmur as means conducive to an ulterior good of which he is to be a partaker, as ordained by God.

1857. If we may, however, venture one step further, to speculate metatechnically through analogy, and attempt to penetrate the design of God in nature, which tends from the material through the animate to the Divine, it appears to be primarily the developement of intellect and consciousness, and, ultimately, the diffusion of His own happiness, of "Himself, the Alpha and Omega, the beginning and the end,—whence all proceed, and to whom all beings shall return,—who hath made all things for Himself, and saw all that it was good!" Who is, in fine, the *αὐτάρκες καλὸν*, the self-sufficient and all-sufficient Good, whose happiness cannot be diminished by being imparted.

1858. Thus we have briefly indicated the general outline of *Teleology*, or the science of ends, as it relates to all art and philosophy, whereby we may perceive the consistency of universal ends in course and coincidence with universal principles and means, in the constitution of one perfect and *systematic whole,* or universe, in the golden chain of which there is no absolute or unconnected link.

# CONCLUSION.

1859. HERE, then, we may terminate our inquiry, from the whole of which we are bound to conclude, that the regarding of things and thoughts as *absolute,* and overlooking their true *relations* or *analogy,* occasion the manifold errors and misunderstandings which mislead and distract both the learned and unlearned. It is, therefore, incumbent on philosophy to settle these relations, that thoughts and their objects may concur truly, and take their proper places; and, till this is accomplished, opinions and doctrines will vacillate unceasingly: for the absolute in philosophy can only give stability to dissidence, disputation, and error.

1860. Nevertheless, upon a review of the present system, as delivered in the preceding Outlines, and comparing the meagreness of its execution with the magnitude of its design, which being to analýze the Universe upon a single principle, and to disclose its philosophic relations, we are bound to confess its deficiency, defectiveness, and inadequacy, in every point of comparison, with its perfect, all-comprehending, and infinite Original.

1861. It may be well, also, if it will in any degree stand the test of a more equal and humble comparison, and escape from the condemnation due to a vain and ambitious attempt. And although the defence which precedes accusation is as irregular as condemnation before trial, we cannot forbear to anticipate some probable objections to our work, which may merit the re-consideration of the reader, and defend it from the reproach of mateology.

1862. Of the imperfections of our work, and how inadequately it accomplishes its design, we are too sensible not to avail ourselves of any fair and legitimate excuse for its real or apparent defects; and we urge, in extenuation, that since a comprehensive sketch only, and not a finished performance, has been intended, and was only in our power to attempt, any failure in the detail, or finish of the parts, can be of little consequence with regard to the general design, of which consistency, as a whole, is of chief importance: and we have already shewn that absolute completeness of parts is incompatible with a systematic and perfect whole.

1863. However inferior, therefore, the present work may be deemed in the rank of human productions, we derive some slight consolation from the trite maxim that nothing human is perfect; nay, if the latter term include in its signification that of *completeness*, then is the like maxim no less true in an infinitely higher application, even throughout all the works of Nature, of whom it is truly said, "she does nothing in vain;" for it is the deficiency or defect of any thing that makes something else necessary or wanting to it: and in this way it is that the grand machinery of the universe is organized into a magnificent and perfect whole, all the parts of which are connected by some link of want or necessity.

**1864.** It has, therefore, been justly remarked by an elegant, although somewhat sceptical writer of the last century, "that in an infinity of things mutually relative, a mind which sees not infinitely can see nothing fully, and must therefore frequently see that as imperfect which in itself is really perfect." And again: "That nothing but what is infinite can see infinite connexions." But men judge the Infinite and Eternal Being narrowly and circumstantially, and condemn or approve Him by induction as they do His creatures, and fancy themselves as good logicians in the one case as in the other. Nevertheless, to this principle of false judgment every work is more or less obnoxious, in proportion to its compass.

**1865.** It is, then, a simple truism,—a mere identical proposition,—when we assert that if any thing were *perfect* it would stand alone, — indigent of nothing, — without relation, and without connexion:

> " A perfect monster, which the world ne'er saw."

1866. This natural imperfection of all things is, then, the principle of connexion among them; just as in music every concord has an intervening discord, and there is a temperament distributing imperfection, by which one octave or system is connected with another in general harmony.

1867. In like manner, the gyrations of the heavenly bodies, and the divisions of time, although regular, are imperfect; the week, or lunar quarter, does not perfectly divide the month,— the month imperfectly divides the year, — and there is a temperament or precession by which each year, or course of seasons and of periods, is carried into the cycle or system of another; and so it is throughout the astronomical universe: there are no invariabilities among the works of nature, the whole of which is a regular system of dependent variety and mutation; nor are there any two things that are absolutely alike therein; and all change and variety imply deficiency, or want and imperfection.

1868. Thus, discord is essential to harmony,— variety to unity. There could be no light without darkness,—no heat without cold,—no current falsehood without truth,—no liberty without necessity,

—no good without evil, nor evil without good,—nor can there be perfection in any thing without imperfection, although there may be perfection of the whole.

1869. Hence, we account many things to be anomalous in nature which would be regular enough to us if we could see the end; and so it is in the minor works of man, when we fail to regard them as wholes. Thus, the various natural wants of man are adapted to his various powers, and designed to call forth his latent faculties; whence it is that we owe to his diseases the whole science and art of medicine, and to some want or deficiency every other art and science also.

1870. This doctrine is as true and important as it is extensive: for upon its ground the Creator has *given* or *denied* to all his creatures,—and one faculty has been empowered at the expense of another. In the bird, the chief strength of muscle has been given to the wings; in quadrupeds, to the legs; while in man,—all-various man,—the excess of cerebral power in the individual is bestowed at the expense of the muscles: and in whatever respect one faculty predominates, either by nature or discipline, it is at some sacrifice or subordination of the rest. Hence he, who would be perfectly qualified in all things, will be predominantly eminent in none; and he may be able to estimate particulars, who is incapable of judging a whole.

1871. Again: had the Creator provided perfectly for man, man himself would be totally improvident; and here we see an instance of the perfection in imperfection; for, by a seasonable withdrawing and withholding of Providence in partial and particular instances, man is taught to exercise his faculties and self-dependence: without distrusting, and with firm reliance, nevertheless, on the general course of Providence.

1872. Upon the same ground, the Creator stands aloof from all evil and imperfection: to reconcile which with providence, and the co-existence of free-will with fate or necessity, have puzzled the understandings, and exercised the pens of writers incessantly. And it is to the easy art of detecting discrepancies in the works and institutions of nature and man, that the perverse, autological, and presumptuous mind owes its chief power of attacking, with seeming cogency, true religion and just social institution and arts; hypercritically exposing discords of which it does not perceive the resolution, —subverting good with evil, of which it does not perceive the compensation,—and substituting worse for better, under the glitter of novelty, and the aim at a false perfection.

1873. *Absolute perfection* in relative things is synonymous with *nothingness:* in music there is no *absolute harmony* but in silence; nor any in colours but in neutrality. Absolute figure is formless,—absolute action is rest. So that, ere any thing can exist, *the absolute* must be disturbed, reaction becomes necessary to action, discord to harmony, deformity to figure, shade to light, vice to virtue, and to every thing its opposite; for all these are *relative*, and God alone absolute and perfect. But the relative is relative to the absolute; and this terminates the circle in identity, and represents the whole of human knowledge, within the sphere of which exists a universe: to comprehend which, we must reflect that no change can take place in that which is perfect, and that every thing in the universe is in a state of mutation; nor is this otherwise in the best works of man.

1874. That we may not become censurable, therefore, for that partial criticism of nature which condemns its particular ordinances and dispensations, its monstrosities, aberrations, and seeming evils and contradictions, we must admit that, although there are apparent anomalies and discrepancies therein, they are designed for good; and that, though there is no absolute perfection in any thing, there is relative perfection in every natural thing, and *absolute perfection of the whole:* so that particular imperfection is essential to universal perfection, — throughout the Universe there is compensation for every irregularity, and " whatever is, is right."

1875. Considering, then, that there is an imperfection essential to subordination and connexion universally, and that our scheme is infinite and our powers limited, we shall be well content to be judged as the true Critic judges nature in this case; namely, by the harmony and integrity of our work, and not by its detail and execution; and much less by its individual positions, expressions, and omissions, to which the narrowness of judgment is prone.

1876. Should it fortunately be admitted that we have to any useful purpose traced the entirety, or *whole* outline of science and philosophy, it will not follow that therefore we have adequately represented any individual *part* thereof; for so immense and boundless is nature and science, that a universe exists for each individual: and, although we may have been able to mark our way throughout the world, it does not follow that we have perfectly surveyed an inch or an atom of it.

1877. And, with regard to any doctrine set forth in these Outlines which may oppugn common prejudices and received opinions, it must be admitted that, but for infringement upon established thought, there could be neither progress nor improvement in science, and that the great advances of the physical sciences in modern times have been achieved in opposition to long-established prejudices, and in some instances contrarily to the common sense of mankind.

1878. It is true the logic of induction succumbs to common sense; but, were the latter to become the universal criterion of truth, custom and opinion would annul philosophy; or, if even the votes of the learned were to decide in this case, and science, like language, were to be established by learned convention or compact, a statute-law would govern reason very irrationally; so that individual research would become criminal, and the discovery of a truth felonious: a state of learning in which genuine knowledge and philosophy could not fail to decline. Much less, then, should vulgar opinion and common sense govern science. It is through the perfect freedom of opinion, and inquiry into nature, therefore, that truth and philosophy are to be established; as religion, also, which is their highest object, is to be determined, not by the enactments of man, but by the eternal laws and ordinances of God.

1879. Every new doctrine and practice promulgated, will, therefore, in the end, stand or fall, according as it may be supported or opposed by the true decisions of reason and the correct testimony of experience, and neither by prejudice nor opinion. The very Earth we inhabit, which to the eye of common sense is a plain of boundless extent, diversified by mountain and vale, is, nevertheless, universally acknowledged by astronomers to be a Globe. Even so the Universe, material and immaterial, which common apprehension beholds as unbounded, and as constituted of innumerable natures absolutely distinct and individual, must be regarded from its true intellectual position analogically as universally correlative, and identical in essence, ere man can attain the position of mind upon which depend his true moral progress, individual and social, and the right comprehension of the universe by which he is insphered, and of which God is the sovereign source, sustainer, and supreme end.

THE END.

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## ERRATA.

Vol. I. page 46, line 12, *for* " effects," *read* " offsets."

Vol. II. page 333, line 17, *for* " Beside me there is nothing unknowable," *read*, " Beside me there is nothing,"—and unknowable.